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HOEFFTCKE'S EXTENSION APPLIANCES.

DESCRIPTION OF

HOEFFTCKE'S EXTENSION APPARATUS

as applied in the Ambulatory Treatment of Fracture of the Limbs, Tuberculous and Arthritic Disease of Joints.

By C. A. HOEFFTCKE,
21, Woodstock Street, Oxford Street, London.
By Appointment to several Hospitals and Societies.

THE medical profession is conservative, and need be, as so many different treatments are tried and found wanting. It is therefore satisfactory to me, in obtaining success with my treatment for fractures and diseased joints by means of my Extension splint, to find that after a prolonged trial a number of eminent surgeons continue to employ it in a steadily increasing number of cases. An Extract from THE LANCET (see below) shows that it is possible even in most complicated fractures to enable the patient to walk about with comfort while the bones are uniting, and to obtain, indeed, splendid results, when otherwise union of the bones in a workable position would have been despaired of and the patient crippled for life.

The same principle which underlies the treatment of fractures—that is, by taking the weight off the leg and transmitting it from the tuber ischii on to the splint so that there is no weight on the heel of the foot when the patient walks—is applied to tubercular and arthritic joints, with the difference that more extension is needed. It is possible for me to apply from 10 to 20 lbs. continuous extension on either hip, knee, or ankle-joint while the patient is walking about, so that friction is absolutely prevented between the surfaces of the condyles, whilst the joint can be moved if necessary.

The material I use in the manufacture of my Extension appliance is a specially prepared leather which is very hard. The advantage of using the hard leather is that when it is moulded on to the plaster cast and applied to the limb it fits like a glove, and produces an equal pressure on the enclosed tissues. This pressure, however, can be regulated on various parts of the leg so as to act like the elastic bandages for Bier's Hyperæmic treatment. The swelling of the leg as well as the patient's statement of pain are a sure guidance, and the supervising medical man can easily regulate the required pressure if shown how to do it.

As described in the Extract from THE LANCET (see below) this treatment is a great inducement for callus to form, as the blood-supply can by this means be controlled. On the other hand, the weight of the body can be transmitted on to the apparatus without any pressure on the soft parts at all, so that when my splint is applied to an atrophied leg the muscles develop and the leg soon regains its normal shape. The following case (see Fig. 1) shows that success can be obtained by means of my Extension appliance in even the worst cases which can come under the notice of any surgeon.

The patient was a Doctor from South Africa who was sent in June last year to a consulting surgeon here in London with a compound ununited fracture of tibia and fibula, the bones being broken in four places. It was plated in South Africa three months before and by some accident the piece of bone in which the screws were fastened broke away. The plate and screws were taken out of the fragments and I took a plaster cast of the leg in Guy's Hospital two days afterwards. On the fourth day after the cast was taken my appliance was put on and the patient walked across the ward. As many surgeons know who were present at the B.M.A. Meeting in London last year, the Doctor patient attended the Meeting every day and took part in the festivities, and went back to South Africa two months later. The bones united firmly and in good position (see Fig. 1) and he wrote some time after my appliance had been taken off: "I have no shortening and I can now do my work without any artificial aid at all."

While it is sometimes difficult to get the bones to join in a fracture where union was delayed for a long time—ununited fracture—the reverse is the case if my splint is applied when the bones have just been broken.

In a recent fracture the patient can be up and about within a week of the accident, and in most cases the fracture requires less time to unite than with the recumbent treatment; whilst the danger of stiffening of the joints is entirely avoided. The advantage of this treatment in accidents to old people must be keenly appreciated, as my appliance will enable them to be got out of bed, and a tendency to hypostatic congestion of the lungs and bedsores is thereby counteracted.

The ability to walk about while the fracture is uniting must also be of great advantage to business men, who cannot afford to stay away from their offices. As for sportsmen—hunting men, jockeys, footballers, cricketers, &c.—the pleasure of being able to watch their sport instead of being confined to bed must be keenly appreciated.

In face of the good results obtained by means of my Extension splint in cases of fractures and diseased joints, I may maintain that the treatment with my splint has a *raison d'être*. I hope that in future when an inquiry is made the medical adviser will not say "I cannot recommend this treatment as I do not know anything about it," as I shall always be pleased to send a detailed description with illustrations upon application; but in no case do I supply an appliance without medical supervision.

Extract from THE LANCET, *Nov. 4th, 1911.*

"THE OPERATIVE TREATMENT OF BADLY UNITED FRACTURES.

..... I think it worth while to illustrate some of the difficulties one may meet by the consideration of two typical cases of badly united fractures. One represents a badly comminuted fracture of the femur which was operated on five months after the bone had been broken, and the other multiple fractures of the tibia and fibula operated on 12 weeks after the injury. Both cases had been under the care of very eminent surgeons, and in neither, apart from operation, was there the slightest prospect of restoring the patient to active usefulness.

FIG. 1.

Dr. S.——. Showing bones firmly united.

FIG. 5.

Case 2. Skiagram taken April 26th, 1911, showing reposition of parts after operation.

FIG. 6.

Case 2. Skiagram taken Sept. 11th, 1911 (with splint on), showing results of operation and perfect union.

Both cases are illustrated by radiograms taken at intervals. They are of particular interest since they show the manner in which callus serves to render secure the junction of a broken and deformed bone in which it has been impossible to obtain any large area of bone apposition without shortening the limb very materially and so reducing its usefulness and the symmetry of the individual in a corresponding degree. ..... This entails the careful retention of the leg for a considerable time in an apparatus by means of which the weight of the body is transmitted from the tuberosity of the ischium to the boot. Such an apparatus enables the patient to get about at an early stage of convalescence, while the gorging of the limb with blood consequent upon the dependent position of the leg during locomotion assists very materially in the formation of callus. Great care should be taken to encourage this engorgement within reasonable limits and to avoid any direct pressure on the seat of fracture which is likely to reduce its blood-supply. Such a splint was made for me in both these cases by Mr. C. A. Hoefftcke, and it served its purpose perfectly.

The first case was that of a man, aged 46 years. On Feb. 1st, 1910, he fell in an aeroplane accident and sustained a very severe comminuted fracture of the upper part of the shaft of the right femur. ... The comminuted fragments were united by callus at a very bad angle, the union being scanty and imperfect. ..... On July 13th, 1910, the operation was performed. As was expected, it was only possible to utilise the blunt end and side of a spike of the lower fragment, which was placed in contact with a similar spike and blunt surface on the upper fragment. In this manner the length of the shaft was reduced by only half an inch. A very stout steel plate, secured by means of eight No. 7 screws three-quarters of an inch in length, and threaded up to the head, was placed in position so as to retain the fragments immoveably and firmly together. Fortunately, the bone was very dense and strong. The patient made an uninterrupted recovery. On Sept. 13th, Mr. Hoefftcke fitted him with his splint and the patient gradually got about with increasing comfort and facility. He was finally able to discard the splint after wearing it for some months. He now gets about easily and leads a very active life. .....

The second case was that of a powerfully built man, aged 56 years. ..... He had sustained a severe comminuted fracture of the left tibia and fibula in December, 1910. The fractures were produced by direct injury, and there was much damage to the soft parts. The tibia and fibula were each broken in two parts, so that there were six separate large fragments of bone. Besides these there were several smaller pieces. ..... The leg was operated on 12 weeks after the accident. ..... The patient made an uninterrupted recovery. Mr. Hoefftcke fitted a splint on May 8th, 1911, and the patient soon learnt to use it. Figs. 5 and 6 (with splint on) show the condition of the bone at intervals of five and seven months after the injury. The amount of new bone that continued to form even after the fragments of the tibia had apparently become firmly united was considerable." *My splint was taken off on the 11th Sept. and the patient walks now without a limp or any artificial aid.*

The Bradshaw Lecture
ON
SOME POINTS IN HEREDITY.

Delivered at the Royal College of Surgeons of England on Dec. 6th, 1911,

BY R. CLEMENT LUCAS, B.S., M.B. LOND., F.R.C.S. ENG.,

CONSULTING SURGEON TO GUY'S HOSPITAL, AND TO THE EVELINA HOSPITAL FOR SICK CHILDREN.

MR. PRESIDENT AND GENTLEMEN,—There is, perhaps, nothing more remarkable, in comparing the teaching of former years with that of the present day, than to note the gradual recession and disuse of the word *diathesis*, as the true microbic cause of diease after disease becomes unravelled.

CRITICISM OF DIATHESIS.

This word was used to indicate a constitutional condition derived from the parents, rendering a person liable to a particular disease—a disease developed from the tissues conveyed to him by his parentage. Lecturers spent many hours in elaborating details of such diatheses as the strumous, cancerous, syphilitic, gouty, rheumatic, nervous, plethoric, lymphatic, and so on. But after a time it became evident that the types described as characteristic were those in which a particular disease or habit had already commenced its work. And now they have passed away like a dream, from which the slumberer awakes to enter into new realms of thought. Yet great was their influence, and mighty were the struggles made by observers to force their irregular cases under the unsympathetic wings of some particular diathesis.

The Gouty Diathesis.

Of these, the gouty is almost the last survivor, bolstered up by its aristocratic relations, and even more by the parvenu's wealth, waiting, as I believe, only for the discovery of a particular ferment which causes the precipitation of sodium urate in the most used joint of an overfed, often sedentary, and perhaps bibulous person.

In this relation it may be interesting to quote Professor Laycock's account of the diathesis of the revered founder of this great museum. The Professor of Medicine of Edinburgh thus describes his brother Scot:—

> John Hunter was of the strumous arthritic diathesis with a nervous element also. [A little mixed, you will observe.] His florid complexion indicated the vascular element, while his rounded forehead, thickened alæ nasi, thick upper lip, and caries teeth in the upper jaw marked the strumous tendency.

He then proceeds to account for these hereditary defects:—

> John Hunter, it is clear, owed his strumous arthritic diathesis to the circumstance that his father was in his seventieth year when John was conceived and had at least one of the diseases of the gouty habit, namely, "gravel."

He sums up:—

> He was a typical man of his diathesis; with a predisposition to tuberculosis and atheroma, he nevertheless, from the vigorous nutrition of his nervous system, was capable of great mental labour.[1]

Such is the libellous description given of the greatest surgeon of his day.[2]

Tuberculosis.

Of diseases believed to be hereditary, the constitutional origin of none was taught with more dogmatic certainty than tuberculosis before the discovery of Koch's bacillus; and even now, though the various modes of entry and the manner of its distribution have long been studied, it is difficult to disentangle men's thoughts from this erroneous teaching. So deeply was this view of its constitutional origin instilled in the minds of the profession that acute observers shut their eyes to the most obvious cases of infection; yet there must have been some sceptics even in those days of darkness, for I find Sir Samuel Wilks writing in the *Guy's Hospital Reports* for 1869 as follows:—[3]

> It does appear most remarkable that whilst many of us have been speaking in the most positive terms of the inherited causes of consumption, there have been those who have no hesitation in looking upon it as a disease like small-pox, accidently introduced from without.

These believers in an outside cause were at that time in a hopeless minority. The great text-book authority, Sir Thomas Watson, thundered out his opinion as follows:—

> Is phthisis contagious? No, I verily believe it is not. A diathesis is not communicable from person to person; nor is the disease ever imparted to another, even by one scrofulous individual to another.

He then proceeds to explain away a most obvious instance of infection:—

> A wife watches the death-bed of her consumptive husband, and presently sinks herself under consumption; and there may be no tubercle or acknowledged examples of scrofula in her pedigree. Yet even here the latent diathesis may fairly be presumed to have existed. Very few families are perfectly free from strumous inter-mixture.

Could the blinding effect of a predominant theory be more clearly exposed than by this explanation?

There is no such thing as hereditary tuberculosis. Infants are not born tuberculous any more than the children of leprous parents are born leprous. We are dealing with a disease both infectious and inoculable, the bacillus of which has been known for 30 years. During that period better hygiene, housing, and food have reduced the mortality due to tuberculosis from 25 to 10 in every 1000. By complete segregation the disease could be as certainly stamped out as hydrophobia was by the courageous muzzling order of Mr. Walter Long, to whom all honour is due. Of what service is it to inquire whether one family is more liable than another to this disease when all are liable, and 97 per cent. of 500 consecutive necropsies were found by Naegeli to show evidence that tuberculous infection had at one time taken place? Statistics to prove an hereditary predisposition are useless, unless taken of persons removed immediately after birth from the tubercle-infected house, and from contact with relatives already infected.

Syphilis.

Another diathesis we were taught was the syphilitic, but we know now that there is no such thing as hereditary syphilis. This is an inoculable disease, the organism causing which was discovered by Schaudinn in 1905, and it may be *transmitted* through the mother to her child when the placental protection breaks down, but there is no reliable evidence of its ever having been carried on to a third generation. It is a disease distributed by folly and reaped by innocence, and those well-meaning people who discovered in this disease a divine scourge to be carried on to the third and fourth generations must be disappointed by its limits. The moment the spirochæta pallida was demonstrated it became evident that as the greater could not be carried by the less, direct transmission from the male to the ovum was out of court. The mother must first be infected, though the disease may not have been noticed, and Colles's law, which states that a mother cannot be inoculated on the nipple by her syphilitic infant, receives additional support by this discovery. It also emphasises the importance of directing attention especially to the treatment of the mother in order that the children may be born free from the disease.

Leprosy.

Of diseases assumed to be hereditary, none has carried this reputation through a longer period than leprosy, which was regarded as hereditary as far back as Biblical times; and this belief will be kept in remembrance by Elisha's curse on his servant Gehazi: "The leprosy therefore of Naaman shall cleave unto thee, and unto thy seed for ever." Its contagiousness was also recognised from the earliest times, so that lepers became outcasts, and segregation has for centuries been the means employed to prevent the spread of the disease. Hansen discovered the bacillus lepræ in 1871. An Indian Commission failed to trace histories of the disease in the families of more than 5 or 6 per cent.; children born of leprous parents are not leprous, and if removed from their parents seldom become so. This, again, is a disease which has been placed among ordinary contagious diseases as the result of modern discoveries, and the belief in its hereditary

[1] Medical Times and Gazette, vol. i., 1862.

[2] The arthritic diathesis has been deprived of acute rheumatism by the discovery of the diplococcus rheumaticus, and if Mr. Goadby's observations prove correct as to a bacillus connected with tooth-sockets (published in THE LANCET of March 11th, 1911) being the cause of osteo-arthritis, the diathesis will be still further depleted.

[3] On the Nature and Causes of Disease, Guy's Hospital Reports, 1869, p. 19.

transmission which held sway for tens of centuries has been scattered to the winds.

Malaria.

Not many years ago malaria was described as a climatic diathesis, by which it was intended to imply that a constitutional condition was brought about by residence in certain climates, and that it became hereditary. The protozoon of malaria was discovered by Laveran in 1880, and its life-history and mode of inoculation have since been so clearly demonstrated that any idea of its being associated with a diathesis would strike everyone now as being utterly absurd.

Cancer.

The diathesis of cancer was never asserted with the same absolute confidence as was that of tuberculosis, and the profession has been about equally divided as to whether it was an hereditary disease or not. Sir James Paget taught that it was a blood disease which caused local manifestations, but the evidence of its commencement as a local disease is now overwhelming. John Birkett, at one time a great authority, going over his cases found cancer more common in families without history of cancer than in those families in which there was a history of the disease, and Paget could only trace a family history in one in three of his private patients, and in one in five or six among hospital patients; whilst Harrison Cripps, 33 years ago, showed that if the evidence of heredity derived from collaterals and doubtful cases were excluded there remained only a number similar to that expressing the normal frequency of cancer to the whole population. Dr. Bashford states that among persons over the age of 35 the chance that a man will die from cancer is one in eleven, and of a woman above the same age one in eight; and so great is the frequency of cancer as a cause of death above that age that in one of every two families a parent or a grandparent will, on an average, have died from cancer. The influence of heredity in man must therefore be regarded as insignificant. It is true that by careful selection and in-breeding Dr. Bashford has produced a race of mice more liable to spontaneous cancer than those of a sound stock, but he warns us that experiment shows that those of cancerous stock are not more liable to implanted cancer than others.

To my mind we arrived half-way to the discovery of the cause of cancer when it was shown that the disease was inoculable in animals of the same species. We are dealing with *a mildly contagious disease slowed down by age.* This conceded, many observations fall readily into line. Thus, Sir Henry Butlin's cases, indicating that the instances on which heredity was based were all on either the father's or on the mother's side, would admit of the explanation that these individuals were more intimately associated and so more liable to contagion. It explains the occurrence of several instances in the same house. It explains also the death of husband and wife from the same disease, of which I will mention three instances. A lady was operated on for cancer of the uterus, subsequently her husband died from cancer of the liver, and later she died from recurrence of the original disease. A gentleman I frequently meet in the City is one of six sons, all living and healthy, whose ages range between 53 and 70. His father died at 57 from cancer of the rectum and his mother at 61 from cancer of the breast. He had one sister who lived with her parents and attended them in their last illnesses. She died from cancer of the breast, and what makes the probability of contagion stronger is the fact that the nurse also developed cancer and died from it. I operated on a lady in 1898 with so extensive a recurrence of cancer in the axilla that I removed both axillary artery and vein in dissecting out the growth. The wound healed primarily and she had no after recurrence, but five years later she died from acute ptomaine poisoning from eating potted meat at a ball supper. A post-mortem examination showed no evidence of cancer anywhere, but there was extensive ulcerative colitis. Her husband subsequently died from cancer of the rectum.

The tendency of modern workers is to regard the cancer cell produced by irritation as the *fons et origo mali*, and this has recently been very forcibly put by Sir Henry Butlin, but I am loth to accept such a hopeless hypothesis, as there is nothing analogous to it in the whole field of medicine. The forces of nature are always directed to safeguarding the individual against attacks from without which may weaken health or endanger life. To produce a cell which wars against its parent and brings about self-destruction is contrary to every law of nature.

If chronic irritation were alone sufficient to produce cancer millions of people who wear boots ought to have cancer of the little toe, which is practically unknown. It is chronic irritation, *plus* abrasion, that is required; in other words, a surface through which a pathogenetic organism may find its nidus. Then the abrasion of the middle-aged woman's plump breast by the upper edge of her corset, the eczema of the nipple, the clay-pipe sore of the lower lip, the tooth ulcer of cheek or tongue, the syphilitic and smoker's sores of the tongue, the chimney-sweep's sores of the scrotum, the burns caused on the Kashmiri's abdomina by the wearing of charcoal ovens, the chronic ulcers which become malignant, the X ray eczema leading to epithelioma—are only means of entry for an organism yet to be discovered.

A QUESTION IN EUGENICS.

I pass now from my destructive criticism of what were formerly believed to be diathetic diseases, but have been proved to be due to organisms penetrating from without, to make a few remarks on diseases of the nervous system with the object of alluding to a question in eugenics. Those who study mental diseases would have us believe that nothing is more certain than the hereditary tendency to the reproduction of nervous diseases, nor anything more disastrous than the results of in-breeding of tainted stocks. When criminals repeat their kind and recurrent forms of lunacy occur, with lucid intervals in which children are conceived only to be a burden on the rates, the State may perhaps determine to interfere to protect itself in the future.

By the kindness of Dr. F. W. Mott I show two pedigrees indicating the classes among which State interference might be considered justifiable.[4]

I do not suppose for a moment that in a country such as this, where emotion plays so prominent a part in politics, any operative measures such as have been adopted in one of the States of America, would find favour. But political ideas gradually change. The "liberty of the individual" which was for a generation a great party cry has passed into oblivion, and we have in its place the political maxim that the minority must yield in everything to the will of the majority. This would therefore seem to be a favourable time for medical men to press on the Government measures for the protection of the State against the gradual increase of lunacy, and especially of criminal lunacy.

In this relation, I would remark that the germinal organs (testes and ovaries) do not actually belong to the individual, but to the next generation. As soon as they have determined his adult form they cease to be of service in his economy; and at times prove of great inconvenience—being not infrequently a cause of disease and of death. They are given him on trust for his descendants, and so badly does he often perform the duties of trustee that the blackest of bubble company promoters may appear innocent by comparison. If this view be accepted, and I maintain it is true in every respect, there should be less hesitation in employing humane and reasonable means for protecting the race. Within the last few years, and quite by accident, it has been discovered that exposure to the X rays destroys the reproductive function of the generative organs without injury to the individual. We have therefore a humane method at our command, which is not only painless but so insidious that it might, if necessary, be applied without the knowledge of the individual. It probably also would be of service to him in assisting him to maintain his mental stability in after years.

I now leave this somewhat uninviting subject to say a few words on twins, on whom I have a few observations to record.

TWINS.

The liability to the production of twins can, I think, be shown to be hereditary. It may be due to an excessive fecundity on the part of the female, or it may be caused by a tendency to the division of a fertilised ovum, which tendency may be transmitted either by the male or female parent.

[4] One of these showed suicide in four generations and all the offspring were lunatics. The other was a subject of recurrent lunacy who when out of the asylum continued to increase his family. Altogether he had eight children, five of whom were confined in asylums.

Mr. J. A. Rooth, in describing his case of Brighton united twins, gives the following family history:—

> The grandmother of the children had four separate births of twins, as well as other children, and was herself a twin. The mother of these children was one of these twins.[5]

That is, he records four generations of twins on the female side.

The following case, as indicating the influence of the male parent, I give on the authority of Dr. Wormell, formerly head-master of the Cowper-street Schools. An intimate friend and neighbour married, and his wife on two occasions gave birth to twins. After the second birth the wife died. Subsequently the gentleman married again, and his second wife gave birth to twins. In all these cases, each pair of twins was of the same sex.

Among domesticated animals twins are encouraged in sheep, because the greater the number of lambs the greater the profit as mutton, so ewes which throw habitually only one lamb are weeded out of a flock. On the other hand, among cows the profit is from the milk, and a cow that gives birth to twins falls into disgrace and is fatted and killed for beef, because the farmer sells the milk which is in excess of what is required for the calf; twin calves are therefore very rare. Breeders also recognise the male influence, and if many ewes throw single lambs as the result of conception to a particular ram, that ram is discarded.

Dissimilar and Identical Twins.

There are two forms of twins generally recognised. In one there has been a simultaneous, or nearly simultaneous, fertilisation of two ova, an ovum descending probably from each ovary at the same menstrual period. Such twins may differ in sex, in height, in appearance, and in disposition, presenting only the general resemblance of brothers and sisters. The other form is believed to result from the division of an ovum after all the elements for development are complete. These are invariably of the same sex and are enclosed in the same membranes. In height, appearance, and character they so closely resemble each other as to be often spoken of as "identical" twins. Shakespeare in *Twelfth Night* was guilty of confusing the first form with the second, when he founded the plot of his play on the resemblance between Sebastian and Viola, as if they were identical twins.

I am able to give some remarkable facts concerning identical twins who entered as medical students at the same date and passed the examinations of the Royal Colleges and those of the M.B. and B.S. Lond. at the same time. After the Intermediate M.B. list was published I was able to find out their numbers, and by what some might consider a curious coincidence, the totals of a large number of marks proved to be identical. The marks were made up in five columns, two for papers, and three for *viva voce* and dissections. Taken alone, too much stress must not be laid upon the fact that their marks totalled the same, as among a large number of candidates this is sure to happen occasionally. But the next table signed by 17 different teachers, signing altogether 33 times for each student, shows a uniformity which could not be the result of accident. Out of all these 66 signatures there is but one variation. One teacher put "excellent" instead of "very good indeed," terms regarded at the hospital as equivalent. In the opinion, therefore, of 17 teachers, the abilities of these twins were indistinguishable or identical.

The difference between twins developed from the fertilisation of separate ova may be emphasised by disease occurring in one whilst the other escapes. Dr. R. Hutchison exhibited at the Section for Study of Disease in Children of the Royal Society of Medicine twin brother and sister, aged a year and a half, the girl being the subject of well-marked achondroplasia, whilst the boy was healthy, a photograph of whom he allows me to exhibit. By the kindness of Dr. G. E. Shuttleworth I am also able to show a photograph of twin patients of Dr. A. Jeffrys Wood, of Melbourne, by which it will be seen that the boy is normal and intelligent, whilst the girl is a Mongoloid idiot. A third case lent me by Dr. Hutchison makes the contrast still more evident, the boy being bright and intelligent, whilst the girl shows the Mongoloid type of idiocy in a marked degree. From these cases it will be seen that neither in sex, mental development, nor tendency to disease need there be any resemblance. These are known as dissimilar twins. It will be noticed that in each of these three cases the defects fell upon the girl, whilst the boy escaped.

[5] Brit. Med. Jour., Sept. 23rd, 1911, p. 654.

MODERN VIEWS ON HEREDITY.

It is almost impossible to allude to the various defects and deformities known to be hereditary without referring to the two modern schools of research, the Mendelian and Galtonian or biometrical schools, each of which is doing excellent work in its own sphere, but can see no virtue whatever in the work of the other. To those trained in biology, the Mendelian researches offer a fascinating inducement to further study, and appear to give a rational explanation of the occurrence of variations which breed true. But the precision that Mendel was able to give to his researches by crossing peas, so that he was able accurately to predict numerical results, can never occur among human beings, since such close in-breeding and back-breeding never occur in any human community. It is, nevertheless, much to anticipate approximate results.

The study of Mendelism is essentially a study of cross-breeding; yet when in the human race a negro unites with a white, the result is a half-caste or mulatto. So also when a European unites with an Indian the result is a Eurasian. Mulattoes united in marriage should, according to Mendelian law, segregate out into pure blacks, pure whites, and intermediates, but they do not; they continue to produce mulattoes, and Eurasians continue to produce Eurasians. The Galtonian or biometrical school rely upon a statistical method of investigation. By collecting a large number of measurements or observations they gain material from which to deduce laws of heredity. Galton began by taking height, and maintained that what was true of one quality would probably prove true for all. His statement that half the heritage of a child is derived from his two parents, one quarter from the four grandparents, and one-sixteenth from the great-grandparents, is so well known that I only mention it in passing. Professor Karl Pearson, repeating these observations, did not find the progression so regular, but the main results were not very dissimilar. Much has been done in this school since those early days, and the probabilities of many qualities have been worked out.

It will be gathered from my critical remarks on the old diatheses that I greatly dread the effect of a predominant theory, for if we are impressed by its truth we are too liable unconsciously to accept what tallies with it, and reject that with which it does not agree. How otherwise could such giants in observation have made such extraordinary and obvious mistakes in the past?

A PEDIGREE OF 30 YEARS AGO.

It may be interesting now to show a pedigree that I buried in the Guy's Hospital Reports just 30 years ago, because its publication was long before the modern schools of heredity came into existence. I will leave it to you to judge whether it does or does not agree with the views of modern investigators. It is a pedigree of supernumerary digits associated with two other deformities, webbing of fingers and toes and an occasional development of cleft-palate. I can vouch that every possible care was taken to make it accurate, and where there was any doubt as to sex a neutral cross was used throughout the family. The man who furnished it was also of exceptional intelligence, and he traced the deformity for us through five generations. It illustrates further three points to which I wish to draw particular attention: first, the extraordinary tenacity with which a deformity once developed clings to the stock in spite of admixture of new blood in each generation; secondly, the frequent association of altogether different deformities in the same individual; and, thirdly, the gradual increase of a deformity in succeeding generations, which I intend more fully to enter into presently.

These deformities were transmitted without regard to sex, and it will be noted that in two instances, where the deformity in the mother was an extra finger on each hand, the children that were deformed had extra toes on each foot and no deformity of the hands. Altogether the great-great-grandmother had 80 descendants, of whom 24, or 30 per cent., were deformed. Supernumerary digits are said to have been reproduced after amputation. Darwin gives three instances in which this occurred, and explained the recurrence as due to "reversion to an enormously remote,

lowly organised, and multidigitate progenitor." The association of webbing of the fingers and toes with supernumerary digits appears to support the correctness of this view, and to suggest reversion to some highly remote amphibious ancestor.

TENACITY OF DEVELOPMENT OF DEFORMITY.

With regard to the first point, the tenacity with which a defect or deformity, once developed, persistently clings to a stock and is repeated generation after generation in spite of new blood being infused, there are pedigrees innumerable now to prove. Cannot a defect ever be washed out in its early beginnings by normal blood? My own small studies in search of hidden deformities appear to show that their tendency is rather to increase than decline. The normal appears powerless to overcome the abnormal, or, as the Mendelians say, the deformity is dominant, and the normal recessive. The pedigrees of spade hands or brachydactyly recorded by Farabee and Drinkwater are claimed as clearly illustrating these features, the abnormal only giving origin to abnormals, and the recessive normals yielding only normals. Nettleship's pedigree of congenital cataract is also claimed as following this law, but in some cases the defect was apparently transmitted through a normal. In future the closest attention should be applied to those exceptions, as from them new facts will probably be gathered. The best illustration we have of tenacity of descent of an abnormal condition is Cunier's ten generations of night-blindness. The descent appears to have been always carried on by an abnormal; but the numbers of normal and abnormal, which should be about equal, according to Mendel's law, when an abnormal unites with a normal, show a great excess of normals above the Mendelian anticipation.

MULTIPLE ABNORMALITIES.

The frequent association of different abnormalities, apparently quite unconnected, in the same individual, is another point deserving close attention and careful study. It would seem that the developmental process having once started in an abnormal direction may fail in its complex details at many points. Mr. Jackson Clarke published a case of clubbed hand due to absence of the radius associated with macrostoma, in the first volume of the Reports of the Society for the Study of Disease in Children. In the same volume the late Dr. George Carpenter published an account of two sisters, each of whom had a keel-shaped skull, congenital heart disease, ventral ruptures, webbed fingers, and six toes on each foot, who were also mentally weak. The mother was strong and healthy and showed no deformity; but a cousin, the child of a maternal uncle, had deformed hands. In the second volume, Dr. Hutchison and Dr. Sutherland published the cases of two unrelated boys presenting exactly the same deformities in association, viz.:—(1) Congenital heart disease; (2) a rudimentary hare-lip; (3) six digits on each hand; (4) shortening of the long bones of the extremities; and (5) defective development of the gums. Many other similar cases of multiple deformities might easily be added; but I have mentioned sufficient, I hope, to stimulate research into the origin of this failure of control of the developmental process in so many directions.

GRADUAL INCREASE OF DEFORMITIES IN SUCCEEDING GENERATIONS.

The last point, to which I desire to draw particular attention, is the origin of deformities from small, easily overlooked, beginnings. I feel sure a search for these will add much to our knowledge, and it may be possible by recognising the forerunners to prevent the development of the graver deformities. Among minor deformities the crooked little finger, which can easily be shown to be tenaciously hereditary, has been treated almost with scorn by Mendelians. Professor Bateson writes:—

> This peculiarity may descend both through the affected and through the unaffected, but the affection, I believe, is like that seen in chickens whose feet may be deformed through weakness ..... Pedigrees of such peculiarities cannot be expected to give results of much positive value.

I take a diametrically opposite view, and regard these minor deformities as those from which most will be gathered in the future, regardless of whether they conform to theory or not.

Weismann's Theory.

Several families in which this defect dwells I have kept in view for years, and finding it practically confined to the middle and upper classes, I used to teach, before Weismann's theory swept the field of Lamarckism, that it was probably brought about by generations of cramping of the little finger in writing, and by gloving. The adhesion between the little and ring-finger I thought might have been brought about in the same way. But Weismann has come and gone with his theory of the complete independence of germ-plasm and body-plasm, so that the effect of environment, use or disuse, upon any part of the body is not reflected, according to his theory, in the germ-plasm, and consequently not hereditary. His theory failed to account for the reproduction of lost parts, such as the salamander's tail, which is said to have been reproduced as many as ten times after amputation, and he was obliged to admit that certain influences such as lack of nourishment might influence and modify the germ-plasm which he regarded as continuous. His theory led to a discovery of inestimable value—the finding of the chromosomes of the nucleus, their reduction to half their normal number, and the restoration to the normal number on fertilisation, half being supplied by the germ and half by the sperm cell. But his theory has probably swung the pendulum of thought too much in one direction, and though it may be true that body influences of a few generations are not evident in the offspring, when we are dealing with hundreds, thousands, or millions of generations the effects of use and disuse seem to me scarcely to be denied. Perhaps no better illustration can be quoted than the gradual changes that are taking place in the human foot. It is 23 years ago that in a lecture on anatomy I pointed out that the gradual disappearance of the little toe was getting ahead of the text-books, for whilst it had already lost one of its extensor tendons, in quite an appreciable percentage of cases one of its flexor tendons was absent also. These at best, like its bones, are diminutive and useless, and its joints are commonly ankylosed. On the other hand, the great toe had undergone extraordinary development, because the inner side of the foot is the first to catch the centre of gravity in transferring the weight of the body from one foot to the other in walking; and I ventured to predict that if the world went on long enough, in perhaps half a million of years, as the useless outer toes, being less and less employed, gradually disappeared, man might become a one-toed race.

Relation of Defective Lateral Incisor Tooth to Hare-lip and Cleft Palate in Later Generation.

From this digression, which allusion to Weismann's theory has tempted me into, I return to the crooked little fingers, and I throw on the screen a sketch showing the gradual increase of this defect in three generations. (Father's, daughter's, and granddaughter's little fingers were shown, the latter's being bent to a right angle.) It is highly probable that Nature throws out warning signals of danger in the early stages of many hereditary deformities which may be discovered if a careful search be made for minor defects among the immediate ancestors. I have only worked this out in the relation of the lateral incisor tooth to hare-lip and cleft palate, but I refer to it in order to stimulate younger observers to turn their attention to this important study, and I have one further observation as yet unpublished. My attention was first drawn to it by observing that a gentleman who as a boy was noticed to have an absence of the left lateral incisor tooth, had an only daughter who presented precisely the same defect on the same side. As this only child has never married there was no chance of proving the relation to hare-lip and cleft palate in that family. It proved, however, that the defect could be transmitted and that the transmission might be through the opposite sex. Next an infant was brought among my out-patients suffering from hare-lip on the right side. This was the fifth child of a mother aged 25. The mother's lip was perfect, but she had an absence of the lateral incisor tooth of the right side which had never been extracted and was known never to have developed. The third case was the first child of a delicate woman aged 23. The mother had absence of the left lateral incisor, which she was certain had never been extracted; her infant had left-sided hare-lip and completely cleft palate.[6]

Further observations led to the discovery that an ill-developed lateral incisor tooth might foretell hare-lip and cleft palate in the offspring. A mother who showed the scar of a hare-lip on the right side, but no defect of alveolus or palate, was found to have an ill-developed lateral incisor

[6] Clinical Society's Transactions, 1888, p. 64.

on the right side. Her first child had an extreme deformity of hare-lip and cleft palate extending from the right side. The next case was the first child of young parents who was brought for operation on a hare-lip on the left side extending into the nostril. The mother was a nice-looking woman and showed no defect in her lip; but on the left side her lateral incisor tooth presented a remarkably defective development.[7] My last observation is on a young man who was operated on for hare-lip on the right side in infancy. On examining his teeth I found that the prospective division of the palate which did not proceed (or perhaps I ought to say lack of union) had divided his lateral incisor opposite the cleft into two separate small teeth. (Photographs or drawings of many of these cases were shown by the epidiascope.)

An Address
ON
THE ELECTRO-CHEMICAL (IONIC) TREATMENT OF CERTAIN GYNÆCOLOGICAL AFFECTIONS.

Delivered at a Meeting of the Glasgow Obstetrical and Gynæcological Society on Nov. 22nd, 1911,

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MR. PRESIDENT, LADIES, AND GENTLEMEN,—I fully appreciate the honour you have done me by asking me to address you to-night on the subject of electro-therapy in gynæcology.

INTRODUCTORY REMARKS.

Time will not permit me to go fully into the subject of electro-therapy, but I do not regret this for several reasons. In the first place, much of this treatment is purely empirical—that is to say, its value is based on experience only, and it does not therefore appeal to men of a scientific turn of mind. In the second place, much experience is required in order to get the best results from it, value at all indeed commensurate with the time and expense involved, and without this experience there is a danger of its gravitating into pure charlatanism. In the third place, the expense is too great if it is to be only occasionally employed; and for a fourth reason, the branch of electro-therapy I have chosen for our study to-night is not open to any of these objections. It requires little knowledge of electric science, is simple and not at all costly, whilst its application is based on strict scientific lines, so much so that, compared with other modes of applying electro-therapy, it may almost be said to be an exact science.

At the same time, whilst only an elementary knowledge of electricity is required for its profitable and satisfactory application, it is absolutely necessary that it should be carried out by those only who are, first, clinical physicians, and second, skilful in the diagnosis of gynæcological affections. This should make it acceptable to members of a society who show by their membership that they are specially interested in gynæcology, and presumably are experts in pelvic diagnosis, besides being at the same time practical physicians.

PRESENT POSITION OF GYNÆCOLOGY.

I think those of you who are original members of this society will agree with me that during the past generation there has been a revolution in gynæcology. It was a medical, it is now a surgical, specialty. If not entirely surgical now, the medical part of it has resolved itself into a matter of probes and pessaries, of plugs and douches. These are all very good in their way. I do not despise them; but it is sad that, when these have been tried and have failed, there is usually left only the knife. As the pathologist comes in when the physician has failed, so here the surgeon takes the place of the pathologist and removes the physician's failures. Thus medicine, through the weakness of the physician, fails in attaining its legitimate aim; the success of the surgeon is an evidence of the failure of the physician; the triumph of the former is a reproach to the latter.

I think it is time we were making a change in our mental attitude towards pelvic disease. We must anticipate and deal more effectually with the pelvic organs of women in the early stages of disease in order to keep them out of the hands of the surgeon, whose museum they were surely never meant to adorn. True, the surgeon is no more to blame than is the pathologist for removing the organs which have ceased to be serviceable, and he has, for the present at least, no need to fear that his occupation will soon be gone. There is a large harvest ripe for the reaper; there is perhaps a larger one fast ripening; whilst in many cases the canker has begun, and the road to the operating-theatre will probably be a *facilis descensus*.

TENDENCY TO CONSERVATIVE GYNÆCOLOGICAL SURGERY.

Can we as a society of humane men and women do anything to help this steady march of pelvic organs towards extinction? You may reply that surgery is steadily becoming more conservative; that healthy or even partially diseased ovaries are not now removed so recklessly. I hope this is so, though only a few days ago I observed in an official document that an ovary had been removed for "inflammation," and that two had been removed for "ovaritis." There must have been good reasons in the minds of the surgeons for this; all the same, it is to be regretted. It is less deplorable, however, than what was the case not so many years ago.

This recalls to my memory an able address in advocacy of conservative gynæcological surgery delivered in Newcastle by Professor Pozzi of Paris. When, in opposition to his views, a well-known gynæcological surgeon declared that, when one ovary was requiring removal for disease, his practice was to take away the sound one also "when he was at it," since it would in all probability become diseased. Any of you who were present on that occasion may remember the sensation which followed Professor Pozzi's application of the *argumentum ad hominem* to his critic, who, if not convinced, was certainly silenced.

I feel certain that it would be unjust to hint that the trend of late towards conservative surgery is due to timidity engendered in men by the cry of "Votes for Women." Let us hope it is due rather to increasing knowledge and increasing reverence for the distinctive organs of woman. Physicians are beginning, I find, to ask if all this operative work is to increase or to diminish in the future; and that this is not confined to pure physicians let me quote from an able and suggestive address delivered a few weeks ago by the President of the Obstetrical and Gynæcological Section of the Royal Society of Medicine, Dr. Amand Routh:—

> What (he says) is to be the future of gynæcology? Is it to continue to become more and more surgical? I think not. Is it not more than possible that in the near future some president of the section will give an inaugural address upon "Treatment Other than Operative in Gynæcology," and will base his remarks upon the wonderful discoveries being made in bacteriological, chemical, electrical, and radiographical therapeutics? Even as it is, without considering these new aids in treatment, is there not a tendency nowadays to consider ourselves surgeons only rather than a happy combination of physician and surgeon, to advise an operation because it is the easiest way to treat a case, or to operate on the rush of both hospital and private practice without previous adequate constitutional preparation of the patient?

GOOD RESULTS OF ELECTRO-CHEMICAL TREATMENT.

These are at least as strong words as I have employed, and practically amount to what, before I had read them, I had intended to say. You will observe that amongst the four "wonderful discoveries being made" he has placed chemical and electrical in the middle. I may not have wonderful discoveries to tell you of because many of you already know something of modern electro-chemistry, upon which has been based some of the work which for years I have been quietly doing in a corner of the gynæcological field; but since the results have often seemed to me wonderful, it is only natural that I should take advantage of your request to address you on electro-therapy in gynæcology; and if not to plead with you the cause of electro-chemistry at least to state my case honestly and I trust without undue bias.

If it is a Utopian idea to aim at the abolition of all pelvic disease in women it is at least a grand one; and it might well and fully justify our existence as a society. If this is an impossible consummation, however, let us do our next best, devoting, if not less energy to operations, at least more

[7] Reports of the Society for the Study of Disease in Children, 1905, p. 31.

to prevention; and where in the nature of the case this is impossible to the earliest possible arrest of the disease.

I trust to point out to you one way in which this attempt may be made. If you decide to try this, to many of you a new form of treatment, it will make your work much more interesting if you study it from the scientific side, and with your permission, Mr. President, I shall attempt to convince you that it is founded on a sure scientific basis.

SOME ELEMENTARY PRINCIPLES OF GALVANIC ELECTRICITY.

I do not think you will be offended with me—at least, those of you who have not recently been working in the department of electro-therapy—if I take it for granted that you have forgotten in the multitude of your studies much of what you previously knew of electric science, and if I, therefore, in a few words recall to your mind some of the elementary principles of galvanic electricity. As the ion plays an important part in galvanism, and as upon it are based largely the laws of chemistry, I shall first ask your close attention whilst I try to give you a mental picture of this entity, upon which is based the treatment I am about to advocate.

IONS.

Let me define an "ion" as a particle of matter, generally small, moving or capable of moving in virtue of an electric charge. It may be as large as a pith ball when charged by an electrified body or as small as a molecule of SO_3 or an atom of hydrogen; and that there are such things as ions so almost infinitely small I hope to be able to prove to you.

All solutions may be divided into electrolytes and non-electrolytes—that is, into those which are, and those which are not, influenced by the galvanic current. Examples of the former are acids, bases, and salts; of the latter distilled water, absolute alcohol, and solutions in distilled water of the following amongst others—sugar, gum, starch, pure albumin. Why do these latter refuse to conduct electricity? Simply because they contain no particles electrically charged, whereas the electrolytes are teeming with free electrically charged particles, these being the carriers of the current, and therefore called ions, which simply means goers. The electric conductivity of solutions in which these ions are is only one evidence of their presence. The special behaviour of solutions when tested for their osmotic pressure also reveals a difference. The amount of the osmotic pressure exerted by a solution is directly proportional to the number of particles in it—that is, to its concentration.

OSMOTIC PRESSURE EXERTED BY SOLUTIONS.

Suppose you place in a specially prepared porous pot a strong solution of sugar. Through an opening in a rubber stopper connect this by tubing of glass and rubber to a U-tube containing mercury; immerse the porous pot in water, and await the result; you will find in a short time that the mercury in the U-tube will be pressed upwards by the expansion of the contents of the jar through the inrush of water till a balance is set up between the weight of the column of mercury and the pressure within the jar. Let this be noted and then replace the contents of the jar with a solution half the strength of the previous one. After a few hours the mercury will be found to have risen just half as high, the pressure being in direct proportion to the number of particles, or molecules as it is in this case.

Take, on the other hand, the solution of a salt—say, NaCl—and compare the results as in the case of sugar. It will be found here that—instead of the half-saturated solution producing a rise of the mercury only half the height of that resulting from the solution of twice the concentration—it will raise the column of mercury nearly as high as did the latter solution.

Now what explanation of this have we? In the case of sugar all the particles are molecules, and these continue as molecules when the solution is diluted; whereas in the NaCl solution all the particles are not molecules, many of these having been split up—or dissociated, as the process is called—into separate particles—namely, sodium and chlorine ions, or sodions and chlorions as they are called, for they differ in nature from what is known as sodium and chlorine. These ions may join and split up again as they rush about and come into collision with each other, so that imagination may picture the molecules breaking up into atoms, these rushing about in a free state, re-uniting with changed partners and darting off again.

In both kinds of solutions the molecules have no electric charge, whereas when they become dissociated each part acquires a charge of electricity—one atom plus and the other atom minus. When they become united into molecules they lose their electric charge, the resulting molecule being neutral, owing to the union of positive and negative charges. Now, as dilution proceeds a larger number of molecules become dissociated, and so the ions increase relatively to the molecules. During osmosis each ion acts as a separate particle, adding to the osmotic pressure as much as a molecule does; and as the electric conductivity in fluids is proportioned to the number of its free ions, this is found to be greater in diluted solutions than would be the case if no increasing dissociation took place by increasing dilution.

ELECTRIC CONDUCTIVITY OF VARIOUS SOLUTIONS.

Let us take ordinary tap water, which in this town is, I find, almost as pure electrically as what is sold as distilled water. You will find that for a column of this water, six inches long and one inch in diameter in transverse section, you obtain from 50 volts about 0·2 ma. of current—that is to say, there are as many electrically charged particles in this water as will yield this amount of electricity. If the water were absolutely pure there would be no resulting current, since it would contain no electrically charged particles—that is, ions. Pure water is, therefore, a non-electrolytic fluid, its resistance to the flow of electricity being practically absolute.

Dissolve some sugar or starch in this tap water and with a similar column, and the same voltage, you will obtain no more, probably somewhat less, current, since the material dissolved has occupied some of the space previously occupied by the water with its electrically charged particles. Dilute this fluid with an equal quantity of water, and you get practically the same amount of current as before the sugar was added. The conclusion thus is that any current obtained is solely due to what ions there may happen to be in the water, none of the sugar having become ionised.

Now take the case of a similar column of a saturated solution of NaCl, and you will find that the amount of current obtained through it from the same voltage is enormous compared to that through a similar column of the water in which it is dissolved. Observe from Table I. what

TABLE I.—*Currents in Columns of Solution of NaCl from 50 Volts.*

Saturated = 36 per cent.	... 600 ma.	1/32 = 1·125 per cent.	... 140 ma
1/2 = 18 ,,	... 575 ,,	1/64 = 0·56 ,,	... 80 ,,
1/4 = 9 ,,	... 500 ,,	1/128 = — —	... 45 ,,
1/8 = 4·5 ,,	... 350 ,,	1/256 = — —	... 24 ,,
1/16 = 2·25 ,,	... 240 ,,	1/512 = — —	... 13 ,,

I have found to be the results of continued dilution in this case. You see that each dilution gives the indication of containing more free ions than would be expected from the amount of the dilution; especially is this the case in the more concentrated solutions. This relationship diminishes, however, as the dilutions increase, you will observe, till a dilution of about 1 per cent. is reached. By this time practically all the molecules have become dissociated, and with further dilutions the amount of current is practically directly proportioned to the amount of concentration.

DISSOCIATION OF MOLECULES IN DIFFERENT DILUTIONS.

Suppose in the strong solution there were in every 100 original molecules 20 dissociated, then the total number of particles for each 100 molecules would be 20 + 20 + 80 = 120 particles in all. If this be diluted with an equal quantity of water, then for each original 100 there will be left in the diluted liquid 20 separated ions and 40 molecules. Suppose that by the further dilution 10 of these molecules become dissociated, this will give of separate particles 20 + 10 + 10 + 30 = 70, and of these 70, 40 will be ions. Thus, to influence the osmotic pressure there will be 10 more particles than were in half of the original solution; whilst there will be the same number of ions as there were in the more concentrated solution; and so the same current can be obtained from the weaker solution as was obtained from the stronger if the same voltage were used.

This relative increase in the number of free ions, by further dilution, continues, as I have just remarked, till we reach the stage where there is about 1 per cent. of the saline in the solution, when practically all the molecules have evidently been dissociated; not permanently so, though at no time can there be more than the merest fraction of the molecules undissociated, since there will be occasionally reunions, but the free flight space has so much increased that these are

less likely to occur. These re-formed molecules, however, will be almost immediately broken up owing to conflict with some flying ions.

You see now how the conclusion is forced upon us that a saline solution contains, even in its most concentrated form, a large number of ions; and that by dilution the number of these has become relatively increased; *quod erat demonstrandum.*

To Arrhenius, of Sweden, we owe the placing of the dissociation theory of electrolysis on a sound experimental basis. To our own Faraday we owe the laws of electrolysis; whilst to Professor Leduc, of Nantes, belongs the honour in a pre-eminent degree of applying these discoveries in the service of medicine. Leduc is a man of transparent modesty, he is a charming personality, and it has been a pleasure to me to know him. For fuller information on the subject I commend to you his book on "Electric Ions and their Use in Medicine."

GALVANIC CURRENT.

We have seen how a galvanic current passes through an electrolytic solution in virtue of the ions existing in it, no ions meaning no electric current. I should like to point out, however, that not only is this the case, but the energy which has come from the battery is derived from ions existing in the cells of the battery.

If you place a piece of zinc on the one side of the tongue and a piece of copper on the other, you will find—if these plates are connected by means of copper wire with a galvanometer interposed in the circuit—that a deflection of the needle takes place as soon as the metals are placed in the mouth. Taking the ions of the saliva as NaCl only, you will observe from the diagram what chemical change takes place in the mouth when the circuit is completed; and if you try the experiment upon yourselves you will find that, with the formation of HCl at the zinc plate, an acid taste is distinctly felt at that portion of the tongue on which the zinc rests.

The cause of the migrations of these ions between the two plates, as you will see from the diagram, is that the copper plate has—as represented in the diagram—negative electrons attached to it, and the zinc plate positive electrons. These electrons do not travel across the fluid to neutralise each other; neither do they pass round the metal circuit in order to become neutralised; but they remain fixedly attached to the plates, indicating a state of elastic electrical tension existing between them—that is to say, they have relatively to each other a difference of potential. The electric charge on them acts only by attracting or repelling the different ions in the saliva; the positive ions being attracted to the negative copper plate, and the negative ions attracted to the positive or zinc plate.

As I have said, these do not, when they reach these plates, influence the electric charges of the plates by neutralising them, but may be said to accumulate at the junction of the wire and the plate—positive electrons at the junction of the copper plate, and negative electrons at the junction of the zinc. Thus is made plain what is difficult at first to understand—that, whilst the copper plate is negative, it is in contact with the positive pole of the cell, the zinc plate, which is positive, being in contact with the negative pole of the cell. So long as the wires attached to the plate remain unconnected the electric charges on each of them—plus and minus—cannot unite. This is shown in the diagram, whilst there is also depicted the circuit completed through a galvanometer.

When the circuit is completed these electrodes are capable of revealing their presence in two ways—first, by heating the connecting wire if it is thin enough or if the battery is powerful enough; secondly, by being able to deflect the needle of a mariner's compass if the wire through which the current is passing is held over or under it. The direction of the deflection of the needle from the north pole depends on the direction of the current at the time. The current has thus direction; it has polarity, and so we call the terminals of the wires poles.

GALVANIC BATTERY.

This is the principle of all galvanic cells, and in order to increase their power we join them into a row, connecting the minus pole of the one to the plus pole of the next in order, and so obtain an electric pressure in direct proportion to the number of cells we employ. This electric pressure we call electro-motive-force, and we calculate it in volts, each cell being equal to about one or one and a half volts, according to its construction.

For ionic purposes from 20 to 40 cells are required, yielding a total voltage of from 20 to 50. This voltage is not galvanic electricity; it is electric potential or static electric pressure. It becomes current, however, when the separated ends are joined, and it can then display its effects, thermic, magnetic, and electrolytic.

The amount of current which a given voltage can generate is determined by the difficulty or friction it has to overcome in order to complete the circuit. If there be much difficulty, or resistance as we call it, then the yield of current or actual (kinetic) energy is less, and *vice versâ*. The ratio is $\frac{E}{R} = C$, where E is the electro-motive-force, R the resistance, and C the current. As E is calculated in volts, so R is calculated in ohms, the current being measured in ampères, and a coulomb being one ampère-second. For ionic medication, however, our galvanometers register thousandth parts of an ampère—that is, milliampères.

Through some conductors of electricity the current passes with very little difficulty—silver and copper, for instance, if pure and moderately thick, have extremely little resistance; whilst others, such as platinum and the element carbon, especially if of a very small cross section, cause a very considerable amount of resistance, and therefore of heat. This, in the case of the platinum, is utilised in the galvanic cautery; whilst carbon is employed as graphite to restrain the current, where, with the given voltage, the amount of current would be in excess of the requirements. When so used it is called a rheostat.

The choice of a suitable battery and a suitable rheostat is not a very important one. Convenience and price may be permitted to determine this. I find the Leclanché cells and the graphite rheostats satisfactory, though the latter are less safe than more expensive ones, for the gradual and steady increase of the current by the rheostat is apt to suffer if this is at all out of order, and for the comfort of the patient and the peace of mind of the medical man sudden increase or decrease of the current is to be deprecated.

QUESTION OF VALENCY.

We have hitherto been considering ions as having one electron charge only. As you will see from Table II., some

TABLE II.

Element.	Atomic weight.	Valency.	Electro-chem.-equiv.
H	1	1	1
O	16	2	8
Cl	35·5	1	35·5
I	127	1	127
Cu	63·5	2	31·7
Zn	65	2	32·5

ions carry two; and though others carry three or more the chemicals likely to be used in ionic medication are either monovalent or divalent—that is, they carry one or two electrons. They are therefore called monads and dyads. From this table you will see that the valency of oxygen is 2—that is, it carries two electrons. It is thus, in the case of water, able to neutralise the two electrons of H_2; and so in $CuCl_2$ the Cu is divalent so as to neutralise the two Cl electrons, and thus form a neutral molecule. This, you will find, must be recognised when calculating the total of a substance transferred by ionic penetration.

KATIONS AND ANIONS.

Note that the electrons are given up at the poles only, where, having lost their electric charges, they assume their ordinary qualities—two atoms of the same element uniting to form an ordinary molecule of that substance as we know it in nature, or they may as atoms attach themselves to one or more of the atoms of the molecule water, and thus cause decomposition of the water. So great is the attraction of the hydrogen and oxygen in water that to tear them asunder in this way requires nearly two volts. These electrons are discharged always as one atom of electricity, as they are considered to be, or as a multiple of one; never a fraction of one. They are therefore indivisible, like the atoms of ordinary matter.

Those ions which, being charged with positive electricity, and therefore travelling towards the negative pole, are called kations—that is, cathode travellers; the other anions, or

anode travellers, seeing that they migrate in the direction of the anode or positive pole. That is, these ions are repelled from the pole which has the same sign as themselves and are attracted to the pole of opposite sign. The kations are called electro-positives and the anions electro-negatives. You will find in Table III. examples of some of these; those only, however, in which we are at present interested.

TABLE III.—*Examples of Kations and Anions.*

Electro-positives (kations).		Electro-negatives (anions).
Cu.	Cocaine.	Cl.
Zn.	Strychnine.	I.
Quinine.	Atropine.	Salicylic acid.
		Sulphurous acid.

CALCULATION OF IONIC PENETRATION.

You are all familiar with what is meant by atomic weight in chemistry, and I have pointed out that some atoms carry one, some two, electrons or atoms of electricity. Now it will be obvious that twice as much electricity will be given up at the electrodes in the case of the latter as in the case of the former; and, according to the laws of electrolysis, the amount of ions displaced is directly proportioned to the amount of current registered during the process.

The electro-chemical equivalent, therefore, will be found to be the atomic weight divided by the valency—that is, by the number of electrons with which the ion is charged. In the case of the monads the electro-chemical equivalent will be the same as the atomic weight; whereas in the case of the dyads the electro-chemical equivalent will be the half of the atomic weight. Now, as one coulomb, that is one ampère second, is capable of displacing 0·0000104 of one gramme of hydrogen, or this amount multiplied by 108 in the case of silver—this being the atomic weight of the latter—and as the total amount of ions displaced or transferred into the tissues is equal to the product of the number of coulombs of electricity passed, multiplied by the electro-chemical equivalent of the substance, multiplied again by the amount of hydrogen displaced by one coulomb, the total amount of ionic penetration can thus be calculated.

For example, the total weight of the ions introduced from 20 ma. for 15 minutes—that is, from 18 coulombs—equals

$$0{\cdot}02 \times 60 \times 15 \times 0{\cdot}0000104 \times 31{\cdot}7 \times 15{\cdot}5 \text{ (grains in 1 gramme)} = 0{\cdot}1 \text{ grain.}$$

This gives no idea, however, as to the number of ions which this weight may imply, and before we can even in imagination conceive of this it is necessary that we should know the size and weight of the ultimate atoms of matter. All atoms may be considered to be of the same dimensions—at least, that is the present belief—and this dimension is given as 10 raised to the power of minus 8 of a centimetre (10^{-8} cm.); that is to say, a ten-millionth part of a millimetre. The weight of an atom of hydrogen is 10^{-25} of a gramme—that is, the ten-quadrillionth part. The weight of an atom of oxygen will therefore be 16 times that, the weight of an atom of copper 63 times that, and so on, being the weight of an atom of hydrogen multiplied by the atomic weight of the particular substance. It may be interesting to know that the weight of an atom of electricity has been calculated as the 700th part of the weight of an atom of hydrogen and its linear dimension about the 100,000th part.

RELATIVE NUMBERS OF IONS AND GERMS.

You will observe that I have calculated the medicinal dose of copper ions in gynæcological practice as about one-tenth of a grain. It may appear to you that the mountain having been in labour a very small mouse has been born; but think of what this small fraction of a grain means, if you are capable of thinking in such minute fractions. It means 1000 millions of millions of millions of ions of copper. It is even more difficult to grasp the meaning of this than to appreciate the practically immeasurable distances of some of the stars in infinite astronomical space.

Now the object of the introduction of these ions into the tissues in gynæcology is the destruction of the armies of the septic fiend. You are accustomed to look on these microbes as the infinitely little, and so you may, perhaps, be able to imagine what this fraction of a grain may do in this warfare when I tell you that it would be capable of introducing into each of a million million millions of streptococci a garrison of a thousand ions with abundance of elbow-room for each ion.

COMPARISON OF ELECTROLYSIS AND IONIC MEDICATION.

Some of you are more familiar with the term electrolysis, in the application of electricity to gynæcology, than with ionic medication. These two terms signify the same thing from the point of view of physics. For therapeutic application, however, they are exactly opposites. In electrolysis the aim is to utilise the effect of the ions when they reach the electrode; in ionic medication, on the other hand, it is the ions which leave the electrode that are utilised in the treatment.

The application of chemicals to any part of the mucous membrane or the skin results in the absorption of the substance dissolved; this we might call osmotic diffusion. This process is also in action during the application of ionic medication, but with this difference, that whilst in the case of the former the fluid passes into the capillaries and lymph channels as soon as it has reached them, and then finds its way into the general circulation, in the case of ionic penetration besides this there is a steady march of the ions right through the tissues—not going round the cells but straight through into the protoplasm of the cells and remaining there. This it is which gives the ionic treatment its peculiar therapeutic properties.

The choice of the suitable pole for the active electrode is of importance both in electrolysis and in ionic medication. In the former, if astringent and caustic effects are desired the positive electrode must be applied. If softening and breaking down are required the electrode applied to the negative pole must be the active one. But in either case the effect is due not to any extrinsic ion but to the ions of the tissues.

In ionic medication, on the other hand, it is more a question of the chemical to be employed, since to it is practically wholly due the effect produced. The decision as to the pole to be employed is determined simply by the electric charge on the ion selected. Electro-positives are driven into the tissues by the positive pole, as might be inferred; electro-negatives from the negative pole. In electrolysis a non-electrically soluble electrode is employed, such as platinum or carbon; in the case of ionic medication the electrode is the substance whose ions it is intended to introduce where this is possible.

PHYSICS OF ELECTROLYSIS.

I show you now a series of U-shaped tubes illustrating the physics of electrolysis, osmotic diffusion, and ionic penetration respectively.

In the tube containing the solution for illustrating electrolysis there is contained in solution iodide of potassium, starch, and a few drops of phenol-phthalein, the object being to prove the migration, in the solution, of the ions of iodine to the positive pole and of the potassium ions to the negative pole. When the iodine becomes un-ionised by contact with the positive pole it will produce the strong blue colour of iodide of starch. When the potassium yields its electrons at the negative pole, being unable to exist in water as a metal, it will combine with hydroxyl extracted from the water molecule, setting the remaining atom of hydrogen free as a gas, and changing the phenol-phthalein into a distinctive red colour, indicating the presence of an alkali.

OSMOTIC DIFFUSION.

In the case of the U-tube containing the solutions to illustrate osmotic diffusion solution of common salt may be introduced into the tube, and on the top of this in each limb say a solution of methylene blue to the extent of about one inch in depth. If these added coloured solutions are denser than the solution of salt in the tube they will almost at once be diffused down the column of water by gravity. If of exactly the same molecular concentration they would practically never change their position. A degree of concentration less than the salt solution is therefore chosen, and, given sufficient time, complete diffusion will result.

The next U-tube contains the same as the middle one, but to each limb has been attached an electrode from a battery of cells. The experiment in this case was begun just before the hour of meeting in order that sufficient time might elapse to show the effect produced.

In the diffusion tube a slight extension downwards of the colouring matter in diminishing depth of colour is seen, but the deepest hue of colouring is at the very top. In the case

of the electrically treated tube, however, there is a difference: the junction between the coloured and the uncoloured solutions remains sharp. The upper part of the coloured portion, moreover, is not now at the highest part of the fluid in the limb of the tube to which the electrode from the positive pole is attached, there being a depth of colourless liquid of about a quarter of an inch in this case at the upper part, the current having driven the ions of the coloured fluid to that distance from its original position. In this case the total length of the coloured fluid, however, remains the same.

IONIC PENETRATION.

I show you in two tubes examples of ionic penetration, compared with ordinary diffusion, through a piece of the wall of the fresh stomach of the ox, the animal having been killed a few hours only before the experiments.

In these two specimens a solution of $CuCl_2$ has been placed on the mucous surface of each piece. In the simple diffusion case after five hours the copper had absolutely failed to enter into the mucous membrane, there being only a slight colouring on the surface, easily washed off.

In the case of the specimen under the same conditions in the other tube a current of 5 ma. during five hours has been passed through the copper solution and the tissue from the positive pole, the total current being thus 90 coulombs, or about five gynæcological doses.

You will find under the microscope on the table a section of this specimen. The report from Dr. Leslie Buchanan, who kindly made the sections for me, is as follows: "That which was subjected to ionisation is readily distinguished by having a portion of bluish-green colour highly condensed and fairly firm in comparison with the rest of the tissue. The cut surface of this condensed portion shows a greenish colour to about half its thickness [the total thickness of the tissue is 6 mm.] and exposure of the cut surface to a solution of sulphide of ammonium results in the conversion of the greenish colour into a very deep brown or almost black. The portion treated simply by diffusion shows no change from the normal either in colour or texture. Sections prepared for the microscope show that in the case of the ionisation the metal has passed through the mucous membrane and submucous tissue and lodged in the tissue of the muscle below. The metal is exceedingly finely divided, and is manifestly lodged *in* the tissue, not simply deposited on it—i.e., the metal is intra-cellular, not simply inter-cellular. It is evident that the mucous membrane has opposed considerable resistance to the passage of the metal, as a large amount of it is deposited on the surface of the tissue in addition to what has penetrated. In the case of the diffusion no metal is found either by the microscope, or by change of colour with ammonium sulphide, in the tissue itself."

COMBINED ELECTROLYSIS AND IONIC PENETRATION.

I have here a piece of flesh meat, and I can show you by means of it an example of combined electrolysis and ionic penetration. I push an electrode of copper and one of platinum into the tissues, attaching the copper probe to the positive pole and the platinum to the negative. I am not placing them too far apart, since I have here only a small electro-motive-force to work with, and so I am diminishing the resistance and thus increasing the current.

We will allow the current to remain in action for about 15 minutes, and you will find at the end of that time that the platinum probe is easily lifted out of the tissue, for the reason formerly mentioned, whereas the copper is adherent, since the O and the HCl which have separated at the positive pole out of the NaCl and the H_2O of the tissue have coagulated the albumin of the meat around the electrode. If the action is allowed to continue sufficiently long a severely caustic action will be produced.

These are the results of electrolysis; but something else has taken place as well. If you examine the part where the copper was you will find that the HCl resulting from the electrolytic action has gradually dissolved some of the metal, and the resulting copper ions have travelled a certain way on towards the negative pole. This is ionic penetration. If the process had been allowed to continue sufficiently long it would have been impossible to remove the copper rod without tearing away some of the flesh. In that case, if the current be reversed for a few minutes, the copper being thus attached to the negative pole, sodium ions will come to it; the tissue will be softened and the copper can then easily be lifted out.

If by this time you are coming to the conclusion that I am over-estimating the importance of ions, let me point out to you what I mentioned in proof of the fact that in a solution of 1 per cent. or less of NaCl practically all the particles were ionised. Now the salines of our body are in a concentration of about 0·9 per cent., so that all the salts in our tissues must be present as ions; and since all vital action is accompanied by electric change, and no chemical alterations can take place without these electrically charged bodies, life must be impossible in the absence of ions.

ACTION OF CHEMICALS ELECTRICALLY DRIVEN INTO THE TISSUES.

I have said that all vital action is accompanied by electric change, and therefore by electric currents, since, whenever there is a difference of potential in the presence of ions, a current must result. Now Pauli, in his book "Physical Chemistry in the Service of Medicine," states that "differences in the concentration of ions brought about through [bringing about?] differences in their migration velocities constitute the source of differences in the electrical potential."

That this was true I had long hoped, since it would explain what to me had formerly been puzzling—namely, how was the chemical, which had been electrically driven into the tissues, and had then assumed an insoluble form as in the case of copper—how was this to be disposed of, and how could it in that form act therapeutically? For more than a year I have, by means of a very delicate mirror galvanometer, made many attempts to prove or disprove this. I asked an expert in electro-physics and one in electro-therapeutics to join me in the investigation, with the result that we all came to the conclusion that this statement was not true. However much it might be true to others it, therefore, had to remain to me untrue.

Recently, however, I again attacked the problem and discovered that, though not true, it was yet a half-truth. No matter how great might be the difference in concentration of contiguous saline solutions, no current could be observed. I noticed, however, that there was sometimes a slight deflection of the needle at the moment of insertion of the platinum wires, but this current immediately stopped when the wires were at rest in the solutions. This led me to the conclusion that the difference in concentration alone was not sufficient to cause a current. If, however, whilst the wires were at rest and dipping into solutions of widely different degrees of concentration, the fluid was then shaken, at once and on every such occasion a marked amount of deflection of the galvanometer needle ensued. Therefore, there is a difference of potential and a resulting current, but only when there exists at one and the same time a difference of concentration *and a flow*.

Since then this is exactly what exists in a greater or less degree throughout living organisms, there must in and around the deposited insoluble powder (in the present case the insoluble oxy-chloride of copper) be constant, though weak, galvanic currents, and consequently some degree of dispersion of the substance by galvanic action. These vital electric currents, which are continually in action, will therefore continue to carry on the work and thus cause the diffusion and final removal of this apparently inert powder by means of ionic migration.

I find that the more the disturbance of the solutions of different degrees of concentration the greater is the current generated. Every muscular movement, therefore, must assist in the diffusion of the substance introduced into the tissues, even when it has been rendered insoluble by the action of the oxygen and chlorine of the tissues.

SELECTION OF CASES AND ION.

In the selection of a suitable ion, one must be guided by the nature of the case. The object of the treatment is to remove sepsis and the accompanying inflammatory exudations. Cases of acute inflammation, of threatened suppuration, and, *a fortiori*, cases of actual pus formation, and also cases of cystic disease are absolutely unsuitable. Apart from these unsuitable cases, however, there remains a very large number of gynæcological affections hitherto treated in a more or less perfunctory manner because with very little hope of permanent benefit. Is it not possible, however, may I venture to say is it not almost certain, that nearly all of those

pathological conditions unsuitable for this treatment might have been prevented if ionic medication had been applied in time and in a thorough manner?

As to curettage, the nature of the case must determine the wisdom of doing this before trying the ionic treatment. This operation is not excluded, but I have found it, since I began the method I am advocating, very seldom necessary.

THE IODINE ION.

When the affection partakes at all of a subacute nature I prefer to start with iodine as the ionic agent. Iodine being electro-negative, the minus pole must be the active one, and the electrode there should be a carbon one, such as I show you. There is no advantage in applying the iodine wholly in an uncombined form, because, as you will observe from one of the diagrams, it at once becomes converted in NaI when it enters into the tissues. The solution I employ is a 2 per cent. one of iodide of potassium combined with 0·2 per cent. of liquor iodi.

The iodine ion will reach the cellular tissue of the pelvis by diffusion, whilst it will penetrate electrically into the protoplasm of the tissues which it has reached during the process of diffusion. I find that it can be detected in the saliva 25 minutes after the beginning of the application, whereas by diffusion alone it takes several hours to reach the mouth from the vagina.

Where there is inflammation of the tubes, the ovaries, or the cellular tissue, if no suppuration is present the iodine ion has given me good results. I am bound to admit, however, that I do not confine the treatment to ionic applications in these cases, but usually finish off with some other form of electric energy, usually the high frequency. Therefore it may be difficult to determine the relative value of these two forms of electro-therapy. The high-frequency currents may be able to complete the cure, but I am certain they can never destroy sepsis as ionic medication can.

Of the *mercuric ion* I have no experience. It is said to have been very serviceable, however, in cases of malignant disease when the diseased tissue is within reach. In such circumstances, however, the dose is enormous and the treatment necessitates the administration of chloroform.

ZINC AND COPPER IONS.

If the case is one of simple cervicitis then the zinc or copper electrode, covered with cotton wool, is inserted into the cavity of the cervix through the speculum, which is filled with a 1 per cent. solution of the bichloride of the metal employed.

When the endometrium is involved the zinc electrode should be introduced into the uterine cavity, and if insufficient action result, or the case be a very chronic one, the copper electrode must be used. It should be remembered, however, that the latter is more likely to cause pain and bleeding, as might be inferred from the meat experiment made. The zinc electrode, however, comes away easily and without the necessity for reversing the current.

In cases of prolonged uterine hæmorrhage the copper will be found the more potent electrode, although, where the patient is very sensitive or there is any reason to fear pelvic cellulitis, it is well to avoid the use of the bare copper electrode. This at least has been my experience.

Either the zinc or the copper can be used with perfect safety in solution by means of the speculum in all cases of sepsis of the cervix. Before an electrode is introduced into the cavity of the uterus, however, the vagina and the cervix must have been rendered as far as possible aseptic by ionic treatment if necessary, after which with moderate care no harm can result from the intra-uterine application.

DESCRIPTION OF INSTRUMENTS.[1]

My first difficulty was with electrodes. I have had some made, however, which give me every satisfaction so far as convenience goes; and this is more important to the physician and to the patient than might be at first imagined. I have had a glass speculum made which suits much better than the ordinary one. It has openings in it near to the cervical end, thus partly distending and filling the vagina.

The holder of the electrode is kept in position by a bag of shot which rests on its broad end on the couch, the patient being on her back with a bed slipper under the pelvis. This holder, as you will observe, keeps the speculum in position, preventing it from slipping out or from dropping. Everything being fixed, the cervical or intra-uterine electrode can, after inserting it through the speculum, be kept in position with perfect ease and safety.

A spiral of copper wire or of zinc, as the case may be, inserted into the hypogastrium and fixed to it in the way shown in the plate, serves for vaginal applications, and also for vulvar by using it for the purpose of pressing against a pad of cotton wool soaked in the fluid and packed carefully against the open vulva.

METHOD OF APPLICATION.

In order to avoid shock the current should be started and stopped slowly and steadily. I formerly applied the neutral electrode to the hypogastrium or to the sacral region, but this involved the undressing of the patient and prevented the current from being diffused equally throughout the cavity of the uterus, since it takes the most direct course to the neutral electrode. I find the hands a convenient place for the application of this electrode—a large clay one—because, being at a distance from the uterus, the current will more readily diffuse itself over the whole of the uterine wall. All rings must be removed whilst the current is flowing, otherwise the fingers may be burnt beneath the rings.

No pain need accompany or follow the application when the method I now follow is adopted; but in some of my early cases considerable pain, and in two instances some pelvic cellulitis, followed. No permanent injury, however, resulted.

I prefer to obtain the current from a battery instead of taking it by a shunt circuit off the electric main. The latter, in my opinion, is less safe. I show you a vulvo-vaginal electrode, which is relatively more troublesome to use; but in cases of combined vulvar, vaginal, and cervical sepsis it will give results well worth the trouble as a preliminary to deeper applications.

CLINICAL RESULTS.

It would only weary you to give clinical details of the cases which I have successfully treated by this method. You can find fairly full details of these in THE LANCET of July 10th, 1909, and Feb. 5th, 1910. Suffice it to say that the cases have been as a rule obstinate, but not in the sense of being obscure, difficult to diagnose, or fit for treatment by the gynæcological expert only. Far from being so, they were all such as the general practitioner is probably treating every day in his practice, and if he is satisfied with my results he can easily carry out the treatment for himself.

When the patient has given a fair chance to the treatment all the septic cases have benefited in a manner gratifyingly monotonous. The discharge, from being purulent or muco-purulent and copious, has become milky and of small amount, whilst the gaping os has become normal in size with the everted mucous membrane drawn in, and erosions have healed with a rapidity which was a revelation to me.

That the general health invariably improved coincidently with the cure of the septic condition and that the tongue, which in some cases had been foul for years owing to auto-toxæmia, should without any gastric treatment become clean and remain so is one of the evidences of this constitutional improvement. In two of my cases this toxæmia was accountable for periodic attacks of severe gastric pain, due evidently to the effect of the toxæmia on the solar plexus. In one of these cases, where the pain had lasted for 12 years, this was completely removed after a few intra-uterine applications of the copper electrode. This was several years ago, and there has been practically no return of the pain since.

In cases of long-continued retro-displacement of the uterus I find that, whereas under ordinary treatment a pessary has had to be worn for many years, this instrument may become unnecessary after a course of ionic medication, the uterus resuming its normal position in the pelvis and remaining there. Patients whom I used to treat periodically have been apparently perfectly and permanently cured. Though under my observation for years after, the pelvic condition has required no attention. This has been to me a new experience since I have adopted the ionic treatment, and so I invite you to try it. That it will give you satisfaction I have no manner of doubt.

The special instruments are here for your inspection, and for fuller details I refer you to my published papers already mentioned. I thank you for your patient attention to my address, and I trust I have succeeded in interesting you.

[1] These instruments are described and illustrated in THE LANCET of July 10th, 1909, p. 72.

A CASE OF RUPTURED ŒSOPHAGUS.

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A MAN, aged 43, a shunter, was admitted to the Royal Free Hospital on July 31st, 1909, at 3 A.M. He was suffering from a severe compound fracture of both bones of his right leg. The accident occurred in the following way. He was conducting shunting operations at night. After uncoupling a carriage in motion, he endeavoured to spring on to the footboard, miscalculated the distance, slipped, and fell, the wheel running over his right leg.

On admission to hospital he was conscious and able to give an account of his accident. He was slightly dazed, but not suffering much from shock. His temperature was subnormal; his pulse 100 and of good volume. He did not complain of any symptoms referable to any other part but his right leg. His right leg was very severely crushed in its lower third, being practically a bag of bones held by the skin and some tendons. It was obvious that there was no hope of saving the limb, so amputation without delay was decided on.

The patient was anæsthetised with A.C.E. mixture and his leg was amputated by Farabœuf's method at the site of election. During the early part of the operation he did not take the anæsthetic well, and strained and retched violently enough to cause defæcation to take place and to interfere with the preliminary cleansing of the limb. He brought up a few mouthfuls of a brown fluid. From this time till the end of the operation he was rather cyanosed and embarrassed in his breathing. Owing partly to this delay the operation lasted about 1¼ hours. The patient was suffering considerably from shock when removed to the ward. He was cyanosed and sweating freely; his temperature was 97° F., his pulse 120 and small in volume, and his respirations 40. He was given one pint of saline solution per rectum, and the foot of the bed was raised. He came round partially from the anæsthetic, and moved his limbs but did not speak.

At 10 A.M. the patient's breathing suddenly changed in character. He was still cyanosed but now deeply unconscious and breathing stertorously; his pupils were moderately dilated, slightly unequal, and reacting sluggishly to light. The corneal reflexes were very faintly marked; neither the knee-jerk nor the plantar reflex on the sound side could be obtained. There was nearly complete flaccidity of the limb. The temperature was 101°; the pulse 118, of moderate tension, and fairly full. A catheter was passed and urine drawn off and examined. This was found to contain neither sugar nor albumin. The skull and spine were again carefully examined, but no external sign of injury could be discovered.

Mr. E. W. Roughton now saw the patient and decided that, considering the history of the accident, a decompressive operation might be of value. The patient was taken to the theatre and a crown of bone was removed from the left occipital region. The dura mater was normal and was not opened; there was no sign of raised intracranial pressure. No anæsthetic was needed, the patient showing no sign of reflex movement during the operation. The patient's temperature on his return to the ward was 103°, his pulse 120; he remained cyanosed, stertorous, and deeply unconscious.

When seen again at 4 P.M. the same afternoon he exhibited rather a remarkable condition which was difficult to account for at the time. He was partly propped up in bed, and with each expiration was projecting from his mouth to a distance of 3 or 4 feet a finely divided spray of a brown fluid, of which there seemed to be an endless supply. This dark fluid, speckling the counterpane almost at the foot of the bed, at once caught the attention. This continued for some hours until the patient's breathing became feeble. His condition was evidently hopeless and he died at 3 A.M. on August 1st, 24 hours after admission.

Necropsy.—The post-mortem examination took place on August 2nd, 31 hours after death. The skull was normal, with the exception of the trephine hole in the left occipital region. There was no fracture or dislocation of the vertebræ either in the cervical region or elsewhere. The meninges were normal to the naked eye, showing no hæmorrhage or other vascular lesion. The brain was congested, but as far as naked-eye appearances went was otherwise normal both externally and on section. The stomach contained a small quantity of acid-smelling fluid. All the abdominal viscera were normal. The operation wounds and the stump of the right leg were healthy. There was no subcutaneous emphysema of the chest wall or neck. When the incision made in the throat to remove the larynx and œsophagus reached the base of the neck, the cellular tissue to the right of the œsophagus was seen to be infiltrated with a dark brown fluid. On opening the thorax the fluid could be traced down in the posterior mediastinum to a spot in the œsophagus about 3 inches above the diaphragm On opening the œsophagus a hole easily admitting a large probe was found at this level, posteriorly and somewhat to the right of the middle. The opening was ragged and discoloured but showed no sign of corrosion or thinning of mucous membrane round it. Except for the opening described, the mucous membrane of the œsophagus appeared smooth and normal. On removing the œsophagus it was seen that there were two roughly circular areas, each of about the size of a shilling, where the wall was considerably thinned, but thinned at the expense of the outer muscular and connective tissue coats chiefly. It was through the lower of these two areas that perforation had taken place. The other area was about an inch higher up and more directly in the posterior wall of the œsophagus. Opposite to these thin places and projecting quite half an inch from the thoracic vertebræ were two very sharp irregular exostoses which seemed to be exaggerations of the normal lipping. No preparation had been made for demonstrating a pneumothorax, so its existence remains uncertain though probable. The right pleural cavity contained about half a pint of acid-smelling fluid slightly blood-stained but otherwise resembling the stomach contents. Both lungs were œdematous and congested; the right lung was partly collapsed. The trachea and upper part of the bronchi showed traces of the brown fluid, but the smaller bronchi were free from it. The heart and pericardium were normal. The fluid from the pleural cavity and the stomach and the intestinal contents were examined by Dr. L. Freyberger. The first two were reported to be gastric contents containing traces of pickles. No abnormal constituents were discovered. Unfortunately no portions of the brain were examined microscopically or stained for fat, and the specimen of œsophagus was not recovered from the analyst.

Remarks.—Cases of ruptured œsophagus are among the rarities of medicine, only 30 cases having been recorded up to 1903 as passing the criticism of authorities. Many cases have been rejected as examples of post-mortem digestion. The claims of this case to be regarded as an ante-mortem condition are pretty strong. The absence of any sign of digestion or erosion of mucous membrane round the perforation, the fact that the perforation had taken place through one of two areas where the muscular coats were thinned or deficient, and the presence of gastric fluid as high up in the mediastium as the root of the neck are all in favour of this contention. The continued respiratory embarrassment noted after the retching, with the disproportionate shock after the operation and the remarkable respiratory condition seen a few hours before death are susceptible of explanation from the post-mortem findings. One would explain the projection to a distance of the finely divided spray of stomach contents, which exactly resembled the intermittent blast of a throat spray with a single bellows, by analogy with that instrument. Assuming that the cardiac orifice was closed, the œsophagus as far down as the perforation could act as the vertical tube of the throat spray, and the extravasated fluid in the posterior mediastinum and right pleura could be gradually aspirated up into the œsophagus in a finely divided state, mixed with the air that almost certainly would find its way into the pleural cavity. When this material reached the level of the larynx, the forcible expiratory movements of the lungs could act as the bellows of the throat spray and propel the particles to a distance. The expiratory movements of the chest, by increasing the intrapleural pressure, would assist fluid to pass up the posterior mediastinum towards the neck as well as through the opening in the œsophagus if that remained open.

As to the causation of rupture of the œsophagus, excluding cases where there is some gross injury of the parts around from accident or from the extension of tumours, in nearly

all the cases there is a history of more or less violent straining or vomiting. This cause was not absent here, but it operated while the patient was under the anæsthestic.

The experiments of Mackenzie[1] and some incomplete experiments made by Bowles and Turner[2] have shown that the posterior wall of the œsophagus in its lower third is the weakest part, and that here the œsophagus is unexpectedly easy to distend, or even to rupture.

McQueeney[3] has described a condition of inflammatory softening with round-celled infiltration in this situation, and supposed that in certain cases this was a predisposing cause.

Zenker and Ziemssen[4] consider that an intra-vitam œsophagomalacia, due to the retention of acid and peptic material, can take place even in apparently healthy individuals.

Brosch,[5] quoted by Whipham, and other observers have noted the occasional partial absence of muscular fibres in this situation.

In the present case two areas of thinning of the muscular coats were seen; but it seems probable that they were not unconnected with the presence of the sharp exostoses of the thoracic vertebræ, and may have been caused by the pressure of boluses of food in their passage down the œsophagus. The accident which caused the original injury to the leg, combined with the sharp exostoses, may have caused a rupture of some fibrous tissue at the seat of perforation, but the absence of symptoms or of shock precludes the presence of any extravasation when the patient was admitted to hospital. Extravasation apparently took place when the patient strained violently under the anæsthetic. The symptoms in this case, as in one described by Whipham,[6] were masked by a superadded cerebral condition which caused unconsciousness. The only sign noted was the projection of the brown spray previously described. Subcutaneous emphysema was absent in this case, as in 3 out of 19 cases in which it has been looked for. A pneumothorax, probably present in this case but not proved, has been noted in 16 out of 19 cases described.

The diagnosis in this case was not made during life and in the presence of another condition causing coma was not suspected. The actual cause of the coma and death of this patient was never certainly ascertained. In the absence of evidence of any gross lesion of the brain or meninges, of uræmic or diabetic coma, or narcotic poisoning, one was left to consider the question of a late anæsthetic effect or of fat embolism of the brain. The anæsthetic employed was the A.C.E. mixture given by a skilled anæsthetist in moderate amount, so that it is possible almost to exclude that as a cause of the condition. As regards the second possibility, unfortunately no microscopical examination of the brain sectioned and stained for free fat was made; but the case clinically closely resembles three cases of fat embolism of the brain described by Godlee and Williams in April of this year and proved microscopically. The sudden onset of cerebral symptoms without definite localisation, with high temperature but without definitely raised blood tension, within a few hours of an operation for compound fracture of a long bone, render this explanation at least a feasible one.

Perhaps the occurrence of two such rarities as a rupture of the œsophagus and fat embolism in the same subject may be somewhat difficult to accept, but they seem to be the only explanation of a case which was an extremely puzzling and difficult one to explain to a coroner's jury when it occurred.

I have to thank Mr. Roughton, under whose care this patient was at the Royal Free Hospital, for permission to publish this case.

[1] Mackenzie: Diseases of the Throat and Ear, vol. ii.
[2] Bowles and Turner: Transactions of the Royal Medical and Chirurgical Society, 1900, p. 241.
[3] McQueeney: THE LANCET, July 21st, 1900, p. 158.
[4] Zenker and Ziemssen: Cyclopædia of Medicine.
[5] Brosch: Virchow's Archiv, 1900, quoted by Whipham in THE LANCET, Sept. 12th, 1903, p. 750.
[6] Whipham: THE LANCET, Sept. 12th, 1903, p. 749.

THE LEAGUE OF MERCY.—At the annual meeting of this body, which was held at St. James's Palace under the presidency of Lord Farquhar on Dec. 15th, Sir Henry Burdett, the honorary treasurer, reported that the league would be able to distribute £19,200, the total collection for the year having amounted to £19,385.

FIBROID INDURATION OF THE MEDIASTINUM PROBABLY SYPHILITIC.

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THE following case of extensive fibroid induration of the mediastinum and right lung, with ulceration and sclerosis of the right bronchus, as well as perforation of the pulmonary artery of the same side, is reported chiefly on account of the difficulty in diagnosis and also because it probably belongs to the class of pulmonary syphilis.

The patient, a man, aged 62, first came under observation on Feb. 10th, 1910, suffering from hæmoptysis and swelling of the right hand.

History.—The family history is unimportant. The patient's habits were temperate. He stated that his own health up to the commencement of the present illness had always been very good. He denied ever having had syphilis. Six months ago he began to suffer from cough and shortness of breath, and three months later had a slight hæmoptysis. He was, however, able to perform light work, and continued doing so until two days before admission in spite of the frequent spitting of small quantities of blood and pain across the front of the chest.

Condition on admission.—On admission the patient was a man of good muscular development. He was cyanosed and had constant dyspnœa. The superficial veins of the chest and neck were very full, especially on the right side; there was also a well-defined bow of dilated venules, roughly following the line of attachment of the diaphragm on both sides. He suffered from a harassing cough, accompanied by a little thick yellow expectoration which was streaked with blood. The pulse was 86, full and bounding, regular, and equal at both sides. The superficial arteries were thickened and slightly calcareous. Respirations 30; temperature 97·4° F.

The thorax was well formed, but the respiratory movements on the right side were impaired. There was absolute dulness on percussion over the right side from apex to base, both in front and behind. In front the dulness extended across the middle of the chest to an inch beyond the mammary line from the level of the third costal cartilage downwards to the sixth rib. The resonance was normal over the rest of the left side, except at the base, where there was slight dulness. Over the whole of the right side tactile vocal fremitus was much diminished; on the left side it was normal. On auscultation the breath sounds over the right lung were very faint and bronchial in character. Over the left lung they were harsh, and the expiration was prolonged. Very fine inspiratory râles were audible at the bases.

The cardiac impulse was palpable in the sixth left intercostal space just outside the mammary line. The heart sounds were distinct, the first normal, the second accentuated; no murmurs were present. The pupils were equal, no tracheal tugging could be obtained, and there were no signs or symptoms suggesting pressure on the recurrent laryngeal nerves. The urine was of specific gravity 1008, slightly alkaline; no albumin was detected.

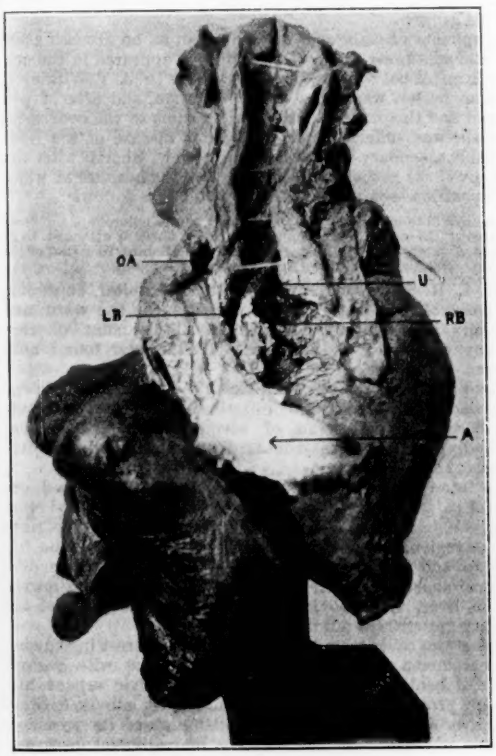
After being kept in bed for three months, with 30 grains of iodide of potassium three times a day and a restricted diet, he gradually improved, but when allowed up for a little time he had paroxysmal attacks of dyspnœa and slight hæmoptysis. On April 24th, 1910, he coughed up 3 ounces of bright red blood. He remained under treatment until July 15th, 1910, when he was discharged by request; he still had some signs of intra-thoracic pressure. During the five months he was under observation his temperature was never raised above normal. He gained 2 pounds in weight.

Clinical history.—The patient was re-admitted to hospital on Dec. 13th, 1910, on account of frequent hæmoptysis and dropsy, and was obviously much worse than on Feb. 10th, with more definite signs of intra-thoracic pressure. He had orthopnœa, extreme cyanosis, and œdema of the face, neck, upper part of the thorax, and both arms; also much distension of the superficial veins. There was slight œdema of both legs. The right pupil was contracted and the pulse in the right arm was smaller than that in the left.

The right side of the chest in front bulged at the level of the third, fourth, and fifth ribs The movements of the right side of the chest were diminished, but no visible pulsation was noticed. On percussion of both sides of the chest the areas of dulness were similar to those on his first admission, but the auscultatory phenomena differed. There were tracheal breath sounds over the upper part of the sternum, and these were also present over the right side to the middle point of the clavicle. There was bronchial breathing with sonorous accompaniments over the remaining part of the front of the chest and behind over the right side. No breath sounds were audible below the angle of the scapula. The heart sounds could not be heard. The abdomen was rather full, and the hepatic dulness extended to two inches below the costal margin, where its lower border was distinctly palpable. There were no signs of ascites.

During the next month the patient was treated on similar lines to those of the first admission, the result being that the œdema, except that in the right arm, rapidly disappeared, and a week later the heart sounds were heard. He always complained of pain, which frequently radiated down the right arm, and he had a persistent cough with purulent expectoration, accompanied by attacks of hæmoptysis, the quantity varying from 3 to 6 ounces. On Jan. 10th, 1911, when apparently quite comfortable, he had his fatal hæmoptysis, over a quart of blood being lost. There were no tubercle bacilli in the sputum.

Pathological findings.—On palpating the mediastinal contents *in situ* a large mass was felt above and in front of



Posterior aspect of lungs and trachea. LB, Left bronchus. RB, Right bronchus. U, Ulceration into right bronchus. A, Aorta. OA, Opening made into aorta.

the roots of the lungs, and on the right side it was found to be firmly adherent to the spine. The right pleural cavity contained about 8 ounces of blood-stained fluid. The whole of the thoracic contents were removed intact, and it was then discovered that all the structures in the posterior mediastinum were involved in this dense fibrous mass. After careful dissection—which included the opening of the trachea and bronchi from behind—the following conditions were found (see figure).

Immediately below the origin of the right bronchus there was a small opening large enough to admit a penholder, which was ulcerated, as well as showing much induration. The opening communicated with a cavity in the uppermost lobe of the lung, which was about two inches in diameter. The cavity did not appear to have any definite wall, but presented a shaggy appearance. It contained some blood clot, which on being cleared away revealed a small opening into the main trunk of the right pulmonary artery. Apart from the cavity, the uppermost lobe of the right lung was solid and indurated. On section it had a dull greyish appearance, and there was much thickening of the surrounding pleura, especially behind. There was no bronchiectasy, and the rest of the lungs showed no abnormality beyond emphysema at the margins. The bronchial glands were slightly enlarged.

Sections were made from the dense tissue surrounding the roots of the lungs and the margins of the opening in the bronchus, and were found on microscopical examination to consist of fibrous tissue, while sections from the apex of the right lung and from a part near the cavity showed fibrous overgrowth with excessive pigmentation.

In spite of a negative history, these pathological findings suggest that a gumma existed at or near the right bronchus which gave rise to much fibrous induration and interstitial pneumonia. In the latter excavation had taken place, and the necrotic process produced ulceration of the trunk of the pulmonary artery.

Sheffield.

CARCINOMA OF THE BOWEL

COEXISTING WITH BENIGN GROWTHS OF THE FEMALE PELVIC ORGANS.

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CLINICAL observation and pathological investigation of cases of morbid growths are still of interest, even in these days of their study from the experimental side. The following are the details of two cases which occurred recently in my practice here.

CASE 1.—The patient was a widow aged 39 years. She married when she was 19, and had five children, two of whom are alive. The last child—a boy—was born when she was 30 years old, and she had not been pregnant since. Her husband died five years later. She had typhoid fever when she was 27, but no other illness. There was no history of malignant disease in the family.

During the early part of 1910 she complained of abdominal pains, and on April 11th she passed some blood per rectum. I saw her for the first time on April 14th, and was shown about half a pint of clotted blood, which was said to have come from the bowel. She was very pallid and sallow. The body was well nourished. She complained of pain in the right iliac region. The abdomen was slightly distended. In the right iliac region and lumbar regions there were dulness on percussion and considerable resistance to palpation. Vaginal examination revealed a hard moveable mass in the pouch of Douglas. Rectal examination proved negative. Nothing of the nature of growth or ulceration could be felt by the examining finger. In front the hard moveable mass in the pouch of Douglas could be easily palpated.

A diagnosis of ovarian tumour was made, and it was thought that the intermittent bleeding from the rectum was due to congestion from pressure of the mass on the rectum.

About the latter end of July the patient was sent to the Manchester Royal Infirmary, where Dr. A. Donald removed from the right side a cystic ovarian tumour of about the size of a fœtal head, and from the left side a solid ovarian tumour almost as large. Palpation of the rectum at the time of the operation showed nothing in the nature of growth. Both tumours had very distinct pedicles; they were not adherent and gave no difficulty in removal.

Examination of the tumours proved that the tumour from the right side was an ordinary multilocular ovarian cyst, while the left tumour was an ovarian fibromyoma.

So far the case seemed quite simple, although it was unusual to find double ovarian growths of a different nature. After the operation the patient's health did not improve

much, except that she was free from the oppressive pain of the right side. After a stay of a couple of months in hospital and convalescent home, she returned home in September, when I again attended her. She was then very ill and cachectic-looking, and had passed blood per rectum. The left leg and foot were swollen, and through the now flaccid abdomen a hard nodular mass could be felt in the left iliac fossa. There could be no doubt now but that she was suffering from malignant disease of the sigmoid colon. She died on Oct. 21st.

Necropsy.—On the next day I made a post-mortem examination of the abdominal cavity and removed the sigmoid colon for further examination. The liver was studded with nodular masses of growth of various sizes. I removed one of the nodules for microscopical examination. There were a few enlarged glands in the mesentery, but there was no further evidence of disease in any other part of the bowel or other organs. The stumps of the ovarian pedicles were adherent to the lateral walls of the pelvis and showed no sign of growth.

On slitting up the removed portion of colon a remarkable appearance presented itself. Studded over the whole surface of the mucosa were numerous red polypi, some sessile, some with fragile pedicles, which easily washed off by the stream of water used in cleansing the part. The accompanying illustration shows this appearance very well. The

Reproduction of photograph of columnar-celled carcinoma of sigmoid colon with polypoid growths, from Case 1.

muscular coat was irregularly thickened, and in one part was a large nodule of degenerated and friable material. There was no stricture.

Microscopical examination of the polypi showed them to be composed of columnar-celled acini with very attenuated basement membranes and stroma. Sections of the muscular coat showed groups of columnar cells invading the muscle tissue. Sections from the liver also showed groups of columnar cells invading the liver tissue, although here the growth cells were more of a mixed character.

This case illustrates in one individual the simultaneous development of three, if not four, distinct varieties of morbid growth without any apparent common causal relationship between them.

The multilocular cyst of the right ovary and the fibromyoma of the left ovary were apparently benign tumours. They gave rise to no other symptoms but those due to local pressure. As there is a history of sterility between the ages of 31 and 35 it is possible that these tumours commenced to form about this time, growing steadily awhile, until the left solid tumour fell by its own weight into the pouch of Douglas, causing pressure on the rectum. Long-continued congestion may have been a factor in the production of the numerous innocent-looking polypi.

Cases are quoted where such polypi become in time associated with malignant growth, and Professor Hansemann in his recent atlas on malignant growths calls special attention to this point. Cathcart[1] quotes a case by Dr. H. Handford at great length. While the polypi may be primary or secondary to the carcinoma, no other relationship can be established between it and the ovarian tumours than that of coexistence.

CASE 2.—The patient was an unmarried woman, aged 48. Towards the end of 1910, and during the early part of 1911, she suffered severely from paroxysms of abdominal pain. She had also severe metrorrhagia, which was almost continuous during the early months of 1911. In March, 1911, she was sent as an in-patient to a London hospital, and in April she had supravaginal hysterectomy performed for a simple fibromyoma of the uterus. At the time of the operation several hard nodules like calcified glands were found in Douglas's pouch, and at the back of the right broad ligament. These were thought to be old tuberculous glands. There were no other signs or symptoms of disease at the time of the operation.

After the usual stay in hospital she returned in May to Warrington. I saw her first on June 26th. She was then complaining of severe pains in the abdomen, and chiefly on the right side. These continued off and on in spite of treatment, and she did not put on flesh, as was to be expected after successfully passing through a major operation for a simple growth.

Suspicions of malignant disease began to be aroused about the end of August, when an icteric tinge appeared in the conjunctivæ. About the middle of September Dr. A. T. Wilkinson, of Manchester, was called in consultation, and after a prolonged and thorough examination he came to the conclusion that she was suffering from malignant disease of the liver, probably secondary to a focus in the bowel. Shortly after this I received the pathologist's report from the hospital at which the operation took place. This report ran as follows:—

A simple fibro-myoma of the uterus and a small fibroid of the broad ligament. On one of the tumours mentioned there is attached to its surface a patch of typical columnar-celled carcinoma like that of the rectum. No other signs of any malignant growth found.

Dr. E. H. Shaw, the pathologist to the hospital, on finding the patch of carcinoma, visited the patient in the ward, and specially investigated the case from the point of view of any symptoms of malignant disease and found none present.

The progress of the case was steadily downward, and at no time were there any signs of intestinal obstruction excepting the occasional paroxysms of severe pain. The patient gradually became more jaundiced and emaciated, and died on Nov. 23rd.

No internal post-mortem examination was permitted, but careful palpation of the abdomen after death revealed more clearly than during life a hard nodular mass in the right lumbar region, and in addition the liver edge could be felt as hard and nodular. Like Case 1, this patient also died from carcinoma of the lower bowel, with secondary growths in the liver, although in this case the exact site of the primary growth was not determined.

These two cases seem to be of special interest in showing that carcinoma of the lower bowel may coexist with various forms of benign growths of the female pelvic organs, and that the prominence of the latter may mask almost entirely the graver disease which gives so little sign of its presence. In both of these cases the presence of malignant disease of the bowel was suspected and looked for while the patient was in hospital, but the symptoms and physical signs were wanting, and no further operative procedure seemed justifiable.

Nothing could be more disappointing to all concerned than this complication, for the surgery of the benign tumours of the female pelvic organs is usually so satisfactory that it is cheerfully recommended and readily undertaken.

I must thank Dr. G. F. Blacker for his suggestions and information in Case 2.

Warrington.

[1] Essential Similarity between Innocent and Malignant Growths.

A TYPE OF NERVOUS VOMITING IN CHILDHOOD.

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THIS paper proposes to deal shortly with a type of nervous vomiting occurring in children about the age of the second dentition. The condition in question has received but little attention in modern text-books, is not uncommonly seen in the out-patient department of a children's hospital, and is not infrequently overlooked.

Inquiry into the time and nature of this vomiting reveals the fact that it is not periodic, but is of a persistent character; and that often, when untreated or when treated unsuccessfully, it may continue for many weeks. It occurs during a meal, or more usually directly the meal is finished, and is of frequent, if not of daily, occurrence. Further inquiry shows that it is painless and effortless, and that it is neither preceded by any organic disturbance, nor followed by any after ill-effects. No diet, no ordinary gastric sedatives, appear to influence it. But with all this—and this is a feature to which I would draw special attention—the child seems neither to lose weight nor to suffer in any respect an alteration in its general appearance of well-being.

This nervous phenomenon, however, while apparently inducing little or no change in the general health of the child, creates a great deal of distress in the minds of the relatives concerned, and generally reflects very little credit on the therapeutics of the practitioner who fails to recognise its real nature. On the other hand, when diagnosed, a very simple remedy suffices in most instances to effect a cure.

Observation of both parent and child is often of value. The mother is frequently of a neurotic temperament, one who suffers from headaches and backaches, and has little or no control over her own offspring. The child, sometimes thin, sometimes well nourished, is frequently of a reserved and introspective nature. Occasionally, and I think much less commonly, the child is emotional and highly timid, one who cries on being undressed, or struggles and shrinks from any examination that involves a stethoscope or spatula.

A review of the histories of these cases generally discloses the presence of other functional nervous disorders, such as enuresis, migraine, and habit-spasm; or in some cases a rheumatic diathesis.

The further description of this complaint is, perhaps, best served by reference to some seven cases which have come under my notice during the past two years. Of these I intend to deal fully with the first two, which were under observation for a considerable period, and which to a marked degree exhibit all the symptoms and associations that have been described above.

Notes of Cases.

CASE 1.—The patient was a boy, aged 8, who for three months previous to being brought to hospital had suffered from constant sickness. Advice had been sought in many directions, but without success. According to the mother the vomiting was of daily occurrence, and took place almost immediately after a meal, and involved, if not all the food taken, at all events a great part of it. Further, the vomiting was not associated with any pain, and was apparently effortless in character. Previously to the onset of the sickness the boy had been subject to periodic attacks of severe headache, the nature of which suggested migraine. The child was also said to be very nervous, a fact which was borne out on examination.

The most careful scrutiny, however, failed to elicit any evidence of disease beyond a history of slight constipation, and the presence of some arrested dental caries. But one feature in this case was very noticeable; despite the three months history of repeated emesis the boy presented a picture of perfect health and more than average nutrition.

Treatment was commenced by a visit to the dental and ophthalmic departments of the hospital, and what little dental caries was present was treated, while the ophthalmic report showed him to be free from any error of refraction or any gross fundal change.

A careful revision was then made in the diet, and for some weeks a variety of anti-dyspeptic remedies and gastric sedatives were tried, but without any success. At this point the similarity of the condition to another nervous intestinal trouble—lienteric diarrhœa—suggested the use of two drugs which have proved of undoubted value in the latter condition—namely, arsenic and opium. A dose of liq. arsenicalis (m i) and tinct. opii (m ii) was therefore prescribed to be taken before each meal. The effect was almost immediate, the vomiting ceasing after the first two or three doses. At the end of a month the mother ceased her attendance, with the result that the vomiting recurred. A few days later treatment was again instituted and again proved successful, this time permanently. Five weeks later, however, as if to confirm the diagnosis, enuresis commenced, but this was easily controlled by the administration of belladonna. A year later both vomiting and enuresis returned, and were again successfully combated by the above drugs.

CASE 2.—The patient was a girl, aged 11 years, who was described by her aunt as always languid, nervous, and subject to headaches. For some weeks she had been fidgety and making faces, and more recently had been very sick after her meals. The vomiting was of the same effortless, painless variety as in the above case, occurring directly after the ingestion of food, and apparently unassociated with any alteration in the child's nutrition. On examination she was a tall, thin, overgrown girl, who flushed and fidgeted when spoken to; and who, when not under observation, exhibited marked signs of habit-spasm. As before, a thorough examination failed to detect any symptoms of organic disease.

The same steps were taken as in the previous case to eliminate any possible underlying gastro-intestinal disturbance or any peripheral or external causes which might be affecting the child's general health, but with no success as regards the vomiting. A change of scene was arranged, which was beneficial for a short time, but with no permanent result. Finally, with the experience of the former case in mind, resort was had to the same combination of drugs which had been so successful before—a step which was again attended by the same happy result. The medicine was continued for a few weeks and then stopped altogether. There was no immediate recurrence of symptoms.

In the course of the next year two trifling attacks of sickness occurred during periods of ill-health due to other causes; these were easily controlled by a repetition of the old formula.

CASE 3.—The patient was a girl aged 10 years, who also was described as being very nervous. A year previously she suffered from an attack of chorea, while more recently she had exhibited all the symptoms of the type of vomiting under discussion. As in the previous cases, the sickness ceased rapidly under treatment. Three weeks after all vomiting had stopped the child was seized with an attack of acute rheumatism.

CASE 4.—The patient was a girl aged 6 years, who, directly her midday meal was finished, would immediately leave the table, go to the scullery, and be sick. Here, again, the vomiting was a simple easy regurgitation of food taken, and was unassociated with any pain or discomfort. This case was lost sight of after a fortnight, at the end of which time all vomiting had ceased as the result of treatment.

CASE 5.—The patient was a girl aged 9 years, in whose case the vomiting occurred, not at the end of a meal, but during the course of it, so that she had frequently to leave the table in a great hurry. She was a fat, healthy looking child, said to be nervous, cried when spoken to, and was easily upset by schoolwork. The mother was a thin neurotic woman, with an obvious lack of control over her child. A brother and a sister of this girl both exhibited definite stigmata of a nervous inheritance. It is of interest to note that this child never vomited when she partook of meals at school. In this case a reptition of the treatment employed in previous cases was again successful.

CASE 6.—The patient was a boy, aged 10 years, who had been sent to hospital as a case of chronic appendicitis. This boy shrieked and struggled when he was undressed like a child of 2 years old, and complained of pain everywhere he was touched. On examination there was no evidence of any intra-abdominal disease, and a few days of judicious hospital control, and the administration of arsenic and opium as before, sufficed to cure his persistent vomiting.

CASE 7.—The patient was a girl aged 8 years, described as very nervous. In her mother's words, "she gets up after almost every meal and goes outside and is sick, she never has any pain, and never appears to experience any discomfort after the sickness is over." As an infant this child suffered from severe rickets, and neither walked nor talked till after 2 years old. At the date of examination, with the exception of some defect in her speech as regards certain consonants, she presented no evidence of any functional or organic disease. The only other child in the family was a somnambulist. Treatment was conducted along the same lines as before, and, as in previous cases, a successful result was not obtained until the administration of arsenic and opium was set on foot. Relief was then rapid and permanent.

Remarks.

It will be noticed in all these cases that every effort was made, in the first instance, to eliminate any factor, local or peripheral, that might possibly give rise to vomiting. The evidence in favour of the condition being a purely functional one is—1. The underlying current of nervous instability or nervous inheritance present in every case. 2. The fact that the vomiting in at least the first two cases was preceded, accompanied, or followed by other functional nervous disorders—e.g., migraine and enuresis in the first case, and habit spasm in the second, while the third case was a rheumatic subject, and the seventh case suffered from that common precursor of functional nervous disorders—namely, rickets. The effects of unsuitable environment are well shown in the fifth case, where the child, though said to constantly vomit at home, never did so when fed at school.

Pathology.—The explanation of the causation of this disease seems sufficiently simple. The vomiting in question appears to be due to some inherited or acquired hyper-excitability of the nervous mechanism of the stomach, which fails to allow of the retention of any considerable quantity of food. This complaint is thus comparable in many respects to the hyper-excitability of the bladder in enuresis, and to that increase of nervous irritability of the intestine which gives rise to lienteric diarrhœa. Moreover, as we have seen above, the same drugs which are of value in the latter complaint are of inestimable use in neurotic vomiting. The retention of fair nutrition and good health can only be explained on the assumption that the vomiting is either never complete, or never, as a rule, takes place after every meal.

Diagnosis.—If the principal features of this disease be

borne in mind—namely, painless, effortless vomiting, occurring directly after meals, without alteration in the general health, and having its origin in children of nervous habits or inheritance—there should be little difficulty in making a correct diagnosis. The child with chronic intestinal dyspepsia, or mucous disease, generally wastes, has epigastric pains and other symptoms, but rarely vomits. In cerebral tumour there may be effortless, painless vomiting, but it has no direct relation to meals; headache is usually persistent and severe, and later there will be optic neuritis, and perhaps localising symptoms.

The regular and daily nature of the sickness easily distinguishes it from that large group of cases of cyclical or periodic vomiting which are dependent on sundry auto-intoxications or are manifestations in the child of migraine. Vomiting due to any intra-abdominal lesion should be easily recognised by a careful examination.

Treatment.—This resolves itself into an elimination of all causes that may aggravate the underlying nervous instability. Removal from unsuitable home surroundings and the application of a little firm moral control will often effect a cure. In obstinate cases the same treatment as is applicable to lienteric diarrhœa—namely, small doses of arsenic and opium given just before meals—has in the author's experience always proved immediately efficacious.

Weymouth-street, W.

TWO CASES OF ECTOPIC GESTATION WITH PRIMARY RUPTURE INTO THE ABDOMINAL CAVITY.

BY W. MANSON FERGUSSON, M.D.ABERD., L.M. ROTUNDA,
ASSISTANT SURGEON, CHALMERS HOSPITAL, BANFF.

THE following two cases occurred within six weeks of one another, are typical examples of their kind, and present certain interesting features.

CASE 1.—The patient, married, aged 25 years, was admitted into Chalmers Hospital at noon on July 22nd, 1911. She was the mother of two children, aged 4 and 2. There had been no miscarriages, and her periods had been very regular up to the end of the previous April.

About 7 P.M. on the day before admission the patient had been seized with pain all down the middle line of her abdomen and severe vomiting. She went to bed but did not sleep, and getting up to pass urine at 2.30 A.M. fainted. At 7 A.M. she got up and started to make her husband's breakfast, managed to light the fire and partly cook the porridge, and again fainted. At 10.30 A.M. she was feeling very ill and at last sent for Dr. J. C. Galloway, who diagnosed extra-uterine pregnancy and called in consultation Dr. J. Anderson, who agreed with the diagnosis and advised immediate removal to hospital for operation.

Dr. Anderson met me at the hospital and gave me the following particulars about the case. The abdomen was remarkably soft, and extensive dulness could be made out on both flanks, the dulness being slowly moveable. There was pain on deep palpation over the right side. Vaginal examination: The cervix was somewhat soft and patulous but closed, with the canal pointing slightly to the right. The uterus could be easily palpated bimanually and seemed very little enlarged, but was carried bodily towards the left side for about two inches at the fundus. To the right of the uterus there could be felt a soft boggy swelling of about the size of a small lemon, and there was also a boggy feeling in Douglas's pouch. Immediately prior to operation her temperature was 96° F. and her pulse 150; she was absolutely blanched, and her abdomen was dull on percussion all over.

Dr. Chance put the patient under with chloroform and then changed to ether by the open method, and a very satisfactory anæsthesia was maintained.

On going through the abdominal wall there was no bleeding at all, and when the peritoneum was opened there was a rush of very dark blood. The peritoneal cavity was full of this and large clots of the size of one's fist. On bringing up the uterus I found a rent in its right side beginning on the fundus and extending downwards for 1½ in. to 2 in. At the lower end of this rent I could see the cross section of the uterine artery, which was not bleeding at all. On exploring the rent I found a cavity of about the size of a pigeon's egg with no appreciable opening into the uterus. I pushed my way through into the uterus and scraped out the false decidua with a curette and opened up the cervix. I then trimmed up the edges of the rent and closed it by two layers of iodine catgut, ligaturing the artery referred to and its accompanying veins. The right ovary was twice the normal size and cystic, so I removed it along with its tube.

The abdomen was irrigated with saline solution, a pint or two of which was left in, and the abdominal wall was sutured in the ordinary way. When suturing the peritoneum and also the rectus I was struck with the extreme friability of those tissues, the slightest traction on them producing extensive tears. I had never seen anything like it, and remarked upon it to Dr. Anderson, who was assisting me, and he said that he had seen a similar condition in a case of hæmorrhagic pancreatitis.

On the completion of the operation the patient was given a rectal saline containing 1 oz. of brandy and 1 dr. of liq. adrenalin. The foot of her bed was raised and rectal salines, omitting the brandy, were continued for 24 hours. She was then gradually moved up into Fowler's position, and then there commenced a fairly abundant tarry-looking discharge per vaginam, which persisted for a few days. Low pressure douches of biniodide were given for a few days. The patient made an uninterrupted recovery. So well was she that on the ninth day after operation she got up out of bed when her nurse was out of the room, and walked to the window to see what was passing along the street.

This interstitial form of ectopic gestation is generally recognised to be the most fatal if rupture into the abdominal cavity should occur, owing to the large vessels which may be involved. Jellett refers to 26 cases, collected by Hecker, of this variety, all of which proved fatal.[1] Munro Kerr gives an account of a case of his own which ruptured and the patient almost died, but rallied and was operated upon some time afterwards successfully.[2]

Since I did the case I have often wondered whether the uterus will give way where it was torn should the patient become pregnant again, and also if I should have sterilised her at the time, seeing she had such a narrow escape. I had no knowledge of any other case except the one given by Munro Kerr, and in it he had to do hysterectomy. I did not think it necessary to do hysterectomy, especially in my patient's collapsed condition, and I resolved not to sterilise her at the time, but to wait until I had an opportunity of discussing the case with others.

If one were quite sure that a scar in this situation were as strong as the Cæsarean section scar, then there would be no question of sterilising such a case as mine. I consulted several gynæcologists about the case and they were all of the opinion that I would not have been justified in sterilising the patient at the time, or even in advising that procedure subsequently. I must say I am rather inclined to the opposite view, but perhaps some of the readers of THE LANCET may have had similar cases which I have not come across in looking for references to this variety of ectopic gestation.

CASE 2.—The patient, married, aged 29 years, sent for me on August 29th, 1911, and gave the following history. On August 11th she had not menstruated for seven weeks, and on that date she passed a "fleshy lump," accompanied by a certain amount of blood. She was quite well until the 25th, and on that day was seized with pain in the lower part of the abdomen and severe vomiting. This attack lasted only a few hours, and she felt fairly well until the 26th, when what she thought a period started, along with very severe pain in the left iliac region and vomiting. She kept her bed and applied hot fomentations. The pain and vomiting ceased, but the vaginal discharge continued.

When I saw her for the first time at about 1 P.M. on August 29th she was feeling quite well, but had a little tenderness in the left iliac region, and on vaginal examination a distinct swelling was palpable immediately to the left of the uterus. I suspected that it was a case of tubal pregnancy, told her husband of my suspicions, and advised a consultation the following day. About three hours after my visit she was again seized with pain and vomiting and fainted. I was sent for, and on my arrival found her very collapsed, her pulse running at 130 and her temperature would not rise above 96° F. There was dulness on percussion

[1] Jellett's Manual of Midwifery, p. 649.
[2] Munro Kerr's Operative Midwifery, pp. 542-3.

all over the lower half of the abdomen and up to the left flank.

As it was a small house in the country I had her taken into hospital, although it was five miles away. She had no radial pulse on arrival at hospital about 10 P.M., but was put on the table immediately and given a rectal saline with brandy and adrenalin. On opening the abdomen I found it almost full of blood and blood clot. The left tube was distended to the size of a hen's egg, and had ruptured on its posterior aspect. The left tube was removed and the abdomen sutured up, after irrigating with saline solution, a quantity of which was left in. Rectal salines containing ½ oz. of brandy and 1 dr. of liq. adrenalin were given four-hourly for 48 hours, and the patient gradually rallied and made an uninterrupted recovery.

Case 2 is undoubtedly a very typical case of ectopic gestation ending in primary rupture into the abdominal cavity, and the only rather rare feature is that the attacks of abdominal pain were accompanied by severe vomiting. The reason why I have reported it is that I consider it a very good example of the harm which may be done by a vaginal examination if the least force is used to determine the pelvic condition. I was extremely careful in my examination, but I am convinced that my examination had something to do with the final rupture.

Banff.

SEVERAL ATTACKS OF APPENDICITIS IN AN APPENDIX SITUATED IN THE SAC OF A SCROTAL HERNIA; OPERATION; RECOVERY.

BY C. H. JAMES, F.R.C.S. ENG.,
LIEUTENANT-COLONEL, I.M.S.

THE following case presents several unusual peculiarities which make its publication desirable. The fact that the cæcum with the vermiform appendix has frequently been found during operation in a scrotal hernia, especially of the right side, is too well known to need more than a passing mention in these notes, but the fact that such displacements of the appendix are liable to inflammation and even suppuration is not generally known or, at any rate, appreciated. The early age of the patient and the fact that the operation in the present case was a long and tedious one add to its interesting features.

The patient, the son of a labourer, was admitted into hospital complaining of excessive pain, tenderness, and swelling of the scrotum. The boy, whose age was stated to be seven years, but who from his size looked less, was very ill. He had high fever (102° F.), the pulse 120, and was evidently in great distress. The history given by the father was that when the child was 2 months old a swelling was noticed in the right inguinal region, but that it was easily reducible by pressing with the fingers, and therefore nothing in the way of treatment was done for it. Indeed, there was no inconvenience at all till about a year ago, when the child began to have attacks of pain in the scrotum, which increased greatly in size. In these attacks he had vomiting and diarrhœa, which lasted three or four days, and then the symptoms gradually ceased and the swelling of the scrotum subsided. There had been three such attacks during the year, after each of which the patient recovered more or less completely, but it was noticed that the hernia could not be reduced as had been the case formerly. In fact, it had become irreducible. The last attack was the worst, and for this the boy was brought to the Rajindar Hospital, Patiala.

On examination the right side of the scrotum was found to be swollen to the size of a man's fist. The skin was red and shiny and acutely tender, and fluctuation could easily be detected. The lower abdomen was rigid and the boy complained bitterly of griping pains which came on at intervals and then passed off. There had been vomiting before admission but none afterwards. The bowels acted after admission, and therefore there seemed prospects of spontaneous relief. The case was put down by the house surgeon for operation next morning, but during the night the abscess in the scrotum burst of itself and a large quantity of pus escaped. The temperature and pulse quickly came down to normal, and the little patient seemed in every way convalescent. The scrotum, however, did not diminish much in size and the tympanitic resonance of inflated intestine within it could still be easily elicited on percussion. There was a small sinus at the upper part of the scrotum near the middle line—the result of the abscess—which showed no signs of healing.

After the patient has been in hospital a month and had sufficiently regained his strength I decided to operate. On May 1st I opened up the scrotum by making an oblique incision commencing over the situation of the internal inguinal ring and extending to the bottom of the scrotum. The sac was filled with large intestine which was everywhere firmly adherent to the walls and the separation of which was a matter of patient and tedious dissection. The vermiform appendix soon came in sight. It was about three inches in length and distinctly thickened and rigid. It ran for about an inch from the lower end of the cæcum to the skin opening, where its lumen communicated with the external sinus already mentioned. At this point it was sharply bent on itself and the remaining two inches of its distal portion lay imbedded in adhesions. The whole appendix was dissected out and the opening in the cæcum closed in the usual way. The remaining portion of protruding intestines was next freed from its attachments to the sac and returned into the abdominal cavity. The neck of the hernia was large, easily admitting three fingers. A radical cure was performed by tying the neck and cutting away the rest of the sac and suturing together the sides of the inguinal canal with buried sutures. The testicle lay in a separate sac—the tunica vaginalis—and was not disturbed.

The operation lasted over an hour. The patient made an uninterrupted recovery and left hospital on May 24th, 1911.

It will be observed that the boy had three distinct and typical attacks of appendicitis, the last of which resulted in abscess of the scrotum which opened externally and formed a permanent sinus. The track of the sinus was the lumen of the proximal portion of the appendix. In spite of this no fæcal matter ever escaped by this route. The case seems an easy one to diagnose when viewed by the light of after events, but was certainly very puzzling when first admitted to hospital. The history of previous attacks was only elicited with difficulty from a stupid and illiterate father after the operation had been performed. It is also interesting to note that although the hernia was noticed soon after birth it was not of the congenital but of the acquired variety, that is to say, the tunica vaginalis was not continuous with the hernial sac, but formed a separate compartment.

Patiala, Punjab.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Intestinal Obstruction following Ovariotomy.—Radical Cure of Hernia in Infants.—Treatment of Clawfoot.

A MEETING of this section was held on Dec. 12th, with Mr. CLINTON T. DENT, the President, in the chair.

The PRESIDENT read a paper on a case of Intestinal Obstruction following an operation for Ovariotomy performed 45 years previously. In the course of his remarks he said that a surgical point of the greatest interest was the formation of adhesions. All the pregnancies of the patient had been quite normal. There had never been any perimetritis or parametritis, nor had there been any illness that might have led to the formation of adhesions. It might be taken as certain that there was no malignant disease of the large intestine, although the possibility of that had been suspected. On the other hand, there was a history of trouble following the ovariotomy, and of suppuration about the pedicle, which was fixed to the abdominal wound. His own view was that the adhesions commenced at that time, and that they had persisted throughout the patient's life, though they had never given rise to any serious trouble. Adhesions of other serous membranes, such as the pleura, might undoubtedly persist for an indefinite length of time without ever being suspected. In the case of the pleura they were less likely to undergo any material changes, but the free movements of the intestines and the alterations in the disposition

of the viscera resulting from pregnancies would profoundly modify peritoneal adhesions. Some of them might disappear; others might become tougher until adjacent coils of intestine became firmly welded together or to the abdominal wall or other viscera; or the adhesions might become stretched, avascular, tough, and string-like according to the local conditions, and those changes might take place gradually and extend over a great number of years, never being suspected, until ultimately they led, perhaps suddenly, to grave symptoms. The patient had been troubled with constipation for a good many years, and that condition might have been partly or even wholly dependent on the presence of the adhesions; on the other hand, the constipation might have been quite independent of them. All pathologists would, he thought, agree that extensive intestinal adhesions were frequently found post mortem when there had been no symptoms during life to indicate their presence, and where there was no obvious post-mortem explanation of their original formation. They were certainly found, and not infrequently, where abdominal operations had been performed, although to all appearance the patient made an absolutely uninterrupted recovery without any complication at all. When a pedicle in an ordinary case of ovariotomy had been ligatured with silk the ligatures might come away years after the operation, and in such cases it was highly probable that some adhesions had formed. They might have disappeared again, but that was not likely, and he thought that after almost any abdominal operation, however uncomplicated and apparently complete recovery was in every respect, some intestinal, or at any rate omental, adhesions were usually present. Once present, they might persist, for the mere fact that adhesions were present was likely to lead to formation of further adhesions, so that although some might disappear others might take their place. Hysterectomy, particularly abdominal hysterectomy, was especially liable to be followed by the formation of extensive adhesions.

Mr. THOMAS H. KELLOCK read a paper on the Radical Cure of Hernia in Infants and Young Children. He said there was probably no operation in surgery of children that had come more into practice during the last few years than that for the cure of inguinal hernia, and rightly so, he thought; for he held very strongly the view that all of those were congenital in origin, as far, at any rate, as the sac was concerned, and that the only "acquired" factor was the protrusion of some viscus into an already existing sac, and he thought, too, that the removal of that congenital deformity was the proper course, and the only course, if a cure in the proper sense of the word was to be brought about. One heard of, and apparently saw, cases that were said to have recovered spontaneously or been cured by the application of a truss, yet he believed in those cases an unoccupied sac remained only waiting for some unaccustomed internal pressure to bring about what one so frequently saw, the sudden, almost painless, occurrence of an inguinal hernia of some considerable size in a young adult How operations for hernia had increased in number was shown by the statistics of the Hospital for Sick Children, Great Ormond-street, for he found that whilst in the year 1898 18 operations for that condition were performed, in 1910 the number had risen to 369. He thought an operation could, and should, be done at an early age; as to the nature of the operation that gave the best results there would seem to be some difference of opinion; for his own part, for several years past he had reduced it to the very simplest form that he thought would answer the purpose. The test of the efficiency of any operation for that condition could only be made by investigating the results some years subsequently, and in order to see what those results had been in some of his own cases he recently, with the help of his late house surgeon, Mr. C. Bryan, made an investigation into a number of cases which proved to be of considerable interest. From the hospital registers they took 75 cases which had been operated on from two to four years ago; they did not go further back because it was only about four years ago that he began to perform the simple operation which he should presently describe. To 50 of the cases they sent postcards asking the mothers to reply on them as to whether there had been any return of the rupture; whilst to 25 who lived within reasonable distance letters were sent asking them to come and be seen. To the 50 inquiries they had received 28 replies; three of the children had died since the operation, two from pneumonia and one from peritonitis 14 months after the operation; one had left the country. In each case the statement was made that up to the time of death or emigration there had been no return of the hernia. One mother stated that there was a bulging when the child coughed. (This patient was sent for and seen subsequently; he had some weakness of the abdominal muscles on both sides above and outside the inguinal canals, but there was no sign of any protrusion through the inguinal canal itself.) In all the other cases the reply was that there was no return of the rupture, and on nearly all the postcards there was some expression of gratitude. Of the 25 patients who were asked to come and be seen 14 presented themselves, and in every one of them the cure seemed to be absolutely satisfactory, so that after the lapse of from two to four years one might claim that a satisfactory result had been obtained in all of them. The ages of the patients at the time of operation varied from a few months to 8 years; 5 were under a year old, 18 between 1 and 2 years, 7 between 2 and 3 years, and smaller numbers at the succeeding ages. In 6 cases the condition was bilateral and the operation done on both sides at the same time. Mr. Kellock attached considerable importance to what might be called the preparatory treatment in these cases; when an infant had a hernia of any size that came down easily he had kept him for a few days before the operation in the Trendelenburg position; it was quite easily managed by fastening the feet and legs over a wedge pillow, and it was rather wonderful how rapidly they became accustomed to the position. After a few days the hernia rarely if ever made its appearance, and when it had not been seen for a day or two the operation was done and the child returned to the same position again for another five or six days. As to the operation itself, he generally made a 1-inch incision through the skin at right angles to the direction of the spermatic cord and just above the external abdominal ring. This incision was well away from the genitals, and being on the line of the blood-vessels was accompanied by very little bleeding; then, dividing the coverings of the cord longitudinally, the sac was found, thoroughly isolated, drawn down with a little force, transfixed and ligatured as high up as it could be reached, and the skin wound closed, his aim being to remove the sac, the whole sac, and nothing but the sac.

Mr. ROBERT JONES (Liverpool) demonstrated some points in the treatment of Clawfoot by means of photographs on a screen.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Cystic Degeneration of the Chorion.—Exhibition of Specimens.

A MEETING of this section was held on Dec. 7th, Dr. AMAND ROUTH, the President, being in the chair.

Dr. R. D. MAXWELL communicated a sequel to a case of Cystic Degeneration of the Chorion. The patient, aged 21, had been married six months. Seven weeks before admission to the London Hospital a hydatid mole was removed under chloroform. A month later some more "white stuff" was passed. On admission on Nov. 10th, 1910, Dr. A. H. N. Lewers found the uterus considerably enlarged and the os patulous. On Nov. 15th typical cystic material was removed from the uterus after dilatation with Hegar's bougies. Numerous vesicles could be seen with the naked eye. On section there were some large œdematous villi, and in close relation to them were parts of the uterine walls. Numerous large and small capillary spaces were seen in the muscular wall of the uterus, and in these spaces were numerous chorionic epithelial cells. The patient was discharged on Nov. 26th, but was re-admitted on March 7th, 1911, as hæmorrhage recommenced in January, and continued off and on till admission, when she was found to be markedly anæmic. Ten days later the uterine cavity was again explored under anæsthesia, and a small nodule of tissue measuring two-thirds of an inch by one-third of an inch was removed with a curette. On microscopic examination of the nodule removed there were a few dropsical villi, which were covered with many layers of papillary projections of the chorionic epithelium. There were some small portions of the mucosa and muscularis, on the surface of which were masses of chorionic epithelium. The patient's blanched condition suggested the possibility of widespread blood destruction by a latent syncytial metastasis which produced no physical signs.

For five weeks the patient's anæmia was medically treated, and she rapidly improved both in red corpuscles and hæmoglobin percentage. On April 21st the uterus was again explored by Dr. H. Russell Andrews in the absence of Dr. Lewers, and a small portion of tissue, the size of a pea, was removed. This tissue had the appearance of normal endometrium, which was confirmed by the microscope. When last seen on Nov. 20th the patient was very much improved and felt quite well. Dr. Maxwell said the case illustrated the difficulty that often arose before being able to decide as to the advisability or not of removing a uterus in such cases as the present. Were there any histological features whereby they could distinguish the trophoblast persisting in utero as an innocent parasitic growth nourished by the maternal circulation without invasion of the maternal tissues, from trophoblast of the more dangerous and infiltrating type? In the light of the present case he felt bound to conclude that many hysterectomies, though justifiable in the present state of their knowledge, were probably unnecessary.

Dr. EARDLEY L. HOLLAND showed a specimen of Ovarian Pregnancy. The specimen was removed by Dr. John Phillips from a woman, aged 40, who had never borne children, but who had had one miscarriage nine years before the present pregnancy. After a period of six weeks' amenorrhœa she had an attack of severe abdominal pain and uterine hæmorrhage. She was treated by rest in bed, and no operative interference was undertaken. During the next five months, however, she had recurrent attacks of a similar nature, and was sent into hospital, where operation was immediately performed. The specimen consisted of the enlarged right ovary. A complete capsule of stretched ovarian tissue enclosed old blood-clot, in the midst of which was situated the collapsed gestation sac. Owing to the time which had elapsed between the date of death of the ovum and removal of the specimen, finer histological details were lacking. The specimen, therefore, had only an anatomical value, and threw no light on the mode of embedding of the ovum in the ovary or its subsequent development. In a blood-clot which was expressed from a recently ruptured follicle in the opposite ovary a remarkable structure was found, which undoubtedly consisted of plasmoidal trophoblast. It might be hazarded that this represented an ovum fertilised at a later date than that found in the right ovary; if so, the case was a unique one of bilateral ovarian pregnancy.

Mr. H. BECKWITH WHITEHOUSE exhibited a Primary Carcinoma of the Female Urethra. He referred to the little attention that had been given to this disease in the standard works on gynæcology in this country. He had succeeded in collecting 43 undoubted records of this disease, chiefly from the recorded cases of Wassermann, Ehrendorfer, Burckhardt, and Karaki. No case was included to which a microscopical report was not appended. He first referred to a case seen at the General Hospital, Birmingham, in which the patient, aged 59, had suffered severe pain and difficulty in micturition for about four months. When first seen the bladder was distended, and urine was dribbling from the urethra. The urethral orifice was dark purplish red in colour, depressed, and puckered. The urethra and bladder were explored by Kelly's cystoscope. The bladder mucosa was somewhat œdematous, but no nodules were seen. On withdrawing the cystoscope an ulcer half an inch long was seen in the floor of the urethra, readily bleeding and surrounded by much induration. No glands were felt in the inguinal region. The patient's condition was very feeble and did not admit of a radical operation. Microscopical reports of a portion of growth removed proved it to be a rapidly growing squamous-celled epithelioma. The relationship of carcinoma of the urethra to urethral caruncle and again to urethritis was discussed. Mr. Whitehouse divided the cases into vulvo-urethral and urethral. The vulvo-urethral growths were the more common, 32 out of the 43 cases coming under this category. These appeared either (1) as an irregular dark purple papillomatous growth, bleeding on examination, and resembling a polyp; or (2) in the form of an ulcer produced by the breaking down of an ulcer on the floor of the vestibule at the urethral orifice; or (3) as an induration surrounding the urethral orifice, leading to puckering and contraction of the orifice. Urethral growths were much rarer, and only 11 were included in the list. These appeared either (1) in the form of an irregular, elongated ulcer, involving the mucous membrane of the urethral floor, and having a tendency to extend towards the urethral orifice; or (2) as a peri-urethral induration, with ulceration only in the later stages. As regards pathology, the preponderating type of growth was the squamous-celled carcinoma. Adeno-carcinoma was rare, and occurred in 14 of the cases. Where practicable, wide excision of the growth, together with the inguinal glands, should be practised.

The following specimens were also shown:—

Dr. J. P. HEDLEY: Cervix Adherent to the Posterior Vaginal Wall.

Mr. J. D. BARRIS: Solid Malignant Growth of the Ovary.

Dr. H. MACNAUGHTON JONES: (1) Section of Carcinoma of the Vulva; and (2) Cyst growing from Remains of a Resected Ovary.

Dr. WALTER TATE: Extra-uterine Gestation; Death of the Fœtus near Term; Removal of the Entire Sac three months later.

Mr. WHITEHOUSE: Ruptured Four Months' Gestation in the Rudimentary Horn of a Bicornuate Uterus.

MEDICAL SOCIETY OF LONDON.

Some Remarks on 400 Operations involving the Peritoneum.

A MEETING of this society was held on Dec. 11th, Dr. J. MITCHELL BRUCE being in the chair.

Mr. J. D. MALCOLM read a paper on 400 Consecutive Operations in which the peritoneal cavity had been opened. There were 113 of various kinds on the uterus, with 2 deaths; 103 on the ovaries and Fallopian tubes, with 2 deaths; and 184 on the abdominal wall, intestines, kidneys, gall-bladder, &c., with 4 deaths. Special attention was paid to the fatal cases, and the circumstances surrounding them were compared with those of Mr. Malcolm's earliest work, which showed a mortality nearly three and a half times as high as that of the recent cases. The difference was attributed in part to want of experience and to less effective methods, but it was urged that one of the greatest advances in abdominal work was attributable to a better selection of the time for operating. The more judicious use of opium and of purgatives was considered very important and also the administration of fluids during convalescence, but it was urged that fluid might be given in too great quantity when shock was developing. Trendelenburg's position was considered one of the most useful aids in operating, how useful could only be really appreciated by those who had worked without it. Modern methods of attaining asepsis were also important. There were in the series 54 hysterectomies for fibromyoma uteri without a death, and these were compared with 29 operations by the old method in which the serre-nœud was used, when patients were advised to have no operation until the tumours threatened life or seriously interfered with health. In these early cases there were five deaths, all but one of which, and perhaps all, would have had a very good chance of recovering by modern methods and by earlier operations. Hysterectomy by the vaginal route was performed in one case of complete prolapse of the uterus of ten years' duration, and death from suppression of urine followed. It was found after death that both ureters were dilated to a size of almost half an inch in diameter. In regard to Wertheim's operation for cancer of the cervix, it was urged that the full benefits of this improved method could only be obtained if the disease was diagnosed and treated early. It was urged that the operation should not be performed if the mischief was so widespread that the death-rate was high and the duration of life afterwards was short. There were 44 ovariotomies which all recovered, and these were compared with 54 of the first 100 operations performed by Mr. Malcolm. In these there were five deaths, including incomplete and malignant cases. All these fatal cases were already published. Forty cases of removal of the Fallopian tubes, generally with the ovaries, showed two deaths. In the first fatal case the small intestine ruptured four days after the operation without any sign of inflammation around the perforations. This was the only case of the kind Mr. Malcolm had seen. In the other case there was a very acute salpingitis with pools of pus amongst adherent coils of intestine, such as one had often seen after death. The state of shock was profound at the end of the operation, but the patient lived a week, and at the necropsy it was discovered

that the uterus had fallen back and blocked the drainage opening in the vaginal wall. The advantages of obtaining free drainage, if necessary by removing the uterus, were urged. The contrast was pointed out between cases of intestinal adhesion treated by purgatives and a case operated upon recently in which obstruction was complete but no purgative had been given. There were 20 cases of intestinal anastomosis with two deaths, in which treatment had been long delayed. Of seven intestinal resections one died. A fatal case of nephrectomy was recorded. The kidney was atrophied and contained colourless matter and was surrounded by hardened fat, so that it appeared to be very much enlarged. There were 64 cases of appendicitis with two deaths. The advantages of early operation were urged. A case was recorded in which a gangrenous appendix was successfully removed from a girl aged 22 who was dying from pulmonary tuberculosis, and who did die 15 months later. In another acute case the woman was delivered of a full time child the night after the operation, and both mother and child did well. A child, aged 2½, was operated upon when all symptoms had subsided and the appendix was found ruptured, and in another patient all pain ceased within three days of its onset, but a ruptured appendix and a piece of gangrenous bowel a foot long were removed, the patient recovering without complication. Such cases illustrated the advantages of selecting the proper time for operating in appendicitis and other cases.

HARVEIAN SOCIETY OF LONDON.

Some Surgical Cases illustrating the Diagnostic Value of X Rays.—On Chloroformization of Patients Sitting in the Upright Position.

A MEETING of this society was held on Dec. 7th, Mr. J. ERNEST LANE, the President, being in the chair.

Mr. E. W. ROUGHTON gave a lantern demonstration on Some Surgical Cases illustrating the Diagnostic Value of X Rays. The cases referred to included many examples of fractures in which, for various reasons, satisfactory apposition of the fragments could only be obtained by operative methods such as wiring, screwing, plating, &c. Cases of chronic abscess were detailed in which the situation of the bone lesion on which they depended could be easily detected by the X rays but by no other means. The demonstration also included examples of disease of the accessory nasal sinuses, renal calculi, foreign bodies of various kinds, and secondary sarcoma of lung.

Mr. J. H. CHALDECOTT read a paper on the Chloroformisation of Patients Sitting in the Upright Position. He said that there was a belief that the administration of chloroform to patients in any but the recumbent position was dangerous; few anæsthetists preferred to employ the upright position. For six years he had administered chloroform to patients of all types and ages sitting bolt upright, and was convinced that this position was for certain operations the most convenient to the surgeon and anæsthetist and of less risk to the patient. The method was useful in nasal and naso-pharyngeal operations. Its success depended on the following points: 1. The patient must be properly prepared to avoid unnecessarily deep anæsthesia. 2. The chair should be a dining-room or kitchen chair with a low back, the patient's feet being supported on a high stool. An arm-chair, and especially an easy chair, was unsuitable. The anæsthetist stood immediately behind the chair and during induction supported the patient's head on his chest. When ready for operation he passed his left arm round the patient's neck, thus controlling the position of the head and holding the mouth-tube of the Junker in the left hand and being able to feel swallowing movements and variation of pulse in the vessels of the neck. The right hand was free to work the bellows or sponge out the mouth. A dental prop should be inserted between the teeth before anæsthesia. To avoid struggling anæsthesia should be induced rapidly with gas and ether or ethyl chloride and ether. When the patient was flaccid chloroform was given on a mask till quiet anæsthesia was established, a naso-pharyngeal sponge being inserted at this stage if required. The administration was then continued through the mouth-tube of the Junker. Comparing anæsthesia in the recumbent and upright positions the questions were: (1) Which was the safer for the patient? (2) Was there difference in the after-effects? (3) Which was the most convenient for the operator? 1. In his opinion for nose and throat operations under chloroform the upright position was the safer. In 1400 administrations he had found the patients were of a better colour, respiration was quieter, and grave symptoms were rare. The alleged danger of syncope did not occur even in subjects of chronic asthma or of cardiac dilatation or goitre because breathing was easier when sitting up than when lying down; mucus, &c., did not pass into the larynx. Tongue forceps were rarely needed. A sponge in the naso-pharynx obviated the risk of blood getting into the larynx. 2. There was less vomiting when this position was used. 3. In the sitting position the surgeon directly faced his work and operated in the position in which he was accustomed to examine the part operated on. Operations could be performed in about half the time required in the recumbent position from the greater ease and the absence of interruptions from coughing. The method was suitable for all nasal and naso-pharyngeal operations requiring continuous anæsthesia, for protracted dental work, and for endoscopy.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.—The Value of Pneumococcal Vaccine in the Treatment of Acute Lobar Pneumonia.

A MEETING of this society was held on Dec. 7th, Dr. T. R. BRADSHAW, the President, being in the chair.

The first part of the evening was devoted to the exhibition of clinical cases.

Dr. R. J. M. BUCHANAN showed several cases of Acute Rheumatic Fever, with Polyarthritis, Endo- and Pericarditis, treated and cured by vaccine. One patient had been in full work as a coal-trimmer for ten months after recovering from severe rheumatism and pericarditis. He also showed a case of Splenomegaly with Dwarfism in a girl aged 19, and a case of Tropho-œdema of the Leg in a girl.

Dr. NATHAN RAW read a paper on the Value of Pneumococcal Vaccine in the Treatment of Acute Lobar Pneumonia and other Pneumococcal Infections. His observations were based on 183 cases. The ordinary treatment was supplemented by the use of vaccines. Dr. Raw said that there was an immediate effect in lowering the temperature and the pulse-rate; this effect was temporary. He thought that the complications were less frequent when treated in this way. Neither the mortality nor the duration of the disease had been reduced.—The PRESIDENT did not consider that the use of vaccines in pneumonia was attended by better results than the ordinary treatment. The mortality in 131 cases treated by him was 6·87, a rate almost identical with that found by Dr. A. T. H. Waters some years ago.—Dr. HUBERT ARMSTRONG said that he had found better results in chronic cases than in acute when children were the patients. One case he had treated with doses of 5 and 10 millions every other day; this child developed an empyema and was discharged cured in three months. Ten days later the child returned with pneumonia of the other lung.

The following cases were shown:—

Mr. HUGH E. JONES: 1. A case of Blennorrhœa of both Lacrymal Sacs, Myopia, and Immature Cataract, in which both cataracts had been extracted after preliminary extirpation of both lacrymal sacs, with resulting vision 6/6 and 6/9 respectively. 2. A case of Rodent Ulcer, involving the frontal sinus, ethmoidal cells, and antrum. Attempted radical operation was followed by recurrence in the deep part of the cavity. Carbon-dioxide snow had proved of very little use. 3. A case of Glioma of both Eyeballs. The parents had refused to allow removal of the eyeballs for 18 months and then consented. Four months after enucleation recurrence occurred in one socket, and extensive growths in the neck.

Dr. EDGAR STEVENSON showed a boy, aged 10, from whose Right Orbit he had removed a piece of wood 3 inches long, the pointed end of a home-made arrow. The foreign body had passed through the sphenoidal fissure, and its point must have just crossed the inner end of the petrous bone. The total ophthalmoplegia was passing away, but the eye was blind from optic atrophy.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 8th, Dr. A. Freeland Fergus, the President, being in the chair.—Mr. W. Ernest Miles (London), in opening a discussion on the Treatment of Carcinoma of the Rectum, said that carcinomatous growths of the rectum differed widely in malignancy, the somewhat rare papilliferous forms seldom recurring, the typical adenoma-carcinoma recurring in 90 per cent. of the cases, and the colloid cancer always recurring. The spread of a cancerous tumour of the rectum was both intramural and extramural; also visible and invisible. The visible intramural spread could be recognised as a direct permeation of the coats of the bowel in the vicinity of the oldest portion of the growth, appearing in some instances as a pearly white infiltration of the submucous coats. The invisible intramural spread could in most cases be demonstrated by the muci-carmine test to extend for several inches in the submucous tissue both above and below the growth. The extramural spread, both visible and invisible, took place in three distinct lymphatic areas—viz., the zone of downward spread, including the peri-anal skin, ischio-rectal fat, and external sphincter muscle; the zone of lateral spread, including the levatores ani muscles, base of bladder, prostate gland or posterior vaginal wall, cervix uteri and base of broad ligament, and associated lymph nodes; and the zone of upward spread, including peritoneum of pelvic floor, pelvic meso-colon, and para-colic and other lymph-nodes. Cases were cited in which spread had taken place extensively within these areas though the growth in the rectum was small and freely moveable. Operations carried out from the perineum, such as Kraske's, Bardenheuer's, and Hochenegg's, could eradicate the tissues composing the zones of lateral and downward spread, but were quite inadequate to reach the tissues of the zone of upward spread. This was illustrated by Mr. Miles's statistics of recurrences in 55 out of 58 cases in which he had performed perineal operations. Resection of the diseased segment with end-to-end anastomosis, whether performed from the perineum or from the abdomen, had failed to prevent recurrence, as had also the so-called abdomino-anal operation, in which the proximal end of the divided colon was brought down to the anus. A radical abdomino-perineal operation, as described by Mr. Miles,[1] was therefore necessary, and should not be reserved for advanced cases, but should be done in as early cases as possible. Mr. Miles's statistics of this operation, performed in 42 cases, showed an operation mortality of 40 per cent., which was markedly influenced by the age of the patients; for while all the 8 cases over the age of 60 died, only 9 of the 34 cases below that age died—a mortality of 26 per cent. Among the 25 patients who survived the operation 4 had suffered from recurrences. Of the remaining 21 cases, 2 had died from other causes, and 19 were alive at date of writing, without having manifested any signs of recurrence, 6 of these having lived for over three years after the operation, 4 over two years, and 9 for periods under two years.—The discussion was continued by Dr. A. Leitch, Dr. T. K. Dalziel, Mr. A. E. Maylard, Mr. R. H. Parry, Dr. J. Crawford Renton, and Dr. J. Grant Andrew.

HUNTERIAN SOCIETY.—A pathological meeting of this society was held on Dec. 6th, Dr. Hingston Fox, the President, being in the chair.—Mr. W. Girling Ball showed the following pathological specimens: 1. Sarcoma of Testicle from a man aged 21, with a history of sudden swelling of that organ three weeks before admission to the hospital. On section, it was found that there was a large hæmorrhage into the centre of the growth accounting for this sudden swelling, which was the first sign of the disease. 2. Hypernephroma of the Kidney, a small encapsuled tumour of the size of a walnut, with hæmorrhage into it. It was situated just underneath the capsule in the renal cortex, and had not invaded the pelvis. It was found quite accidentally in the post-mortem room, not having given rise to any symptoms during life. The patient died at the age of 77, with a fractured base of the skull. There were no other growths found in the body. 3. A small "Traction" Diverticulum of the Œsophagus of the size of a small marble, situated in the anterior wall of the œsophagus, just below the bifurcation of the trachea. It had a distinct neck and was in no way attached to the surrounding tissues. The lymphatic glands in the region were healthy and showed no evidence of old or recent inflammation. 4. A Mediastinal Tumour with a large Secondary Growth in the Kidney. The specimen was shown chiefly to illustrate the extent to which the wall of the heart may be involved without obvious interference with its action. The whole of the anterior wall and the large vessels of the heart were embedded in growth. The posterior wall, however, was free. The growth had been diagnosed as an aneurysm by the radiographer.—Dr. W. H. Kelson showed a series of microscopic slides illustrating the more common affections and pathological conditions found in the throat, nose, and ear, such as polypus, tubercular and malignant disease, syphilis, diphtheria, &c.—Dr. Theodore Thompson showed sections of cords illustrating Subacute Combined Degeneration.—Dr. A. C. Jordan showed skiagrams of chests and lungs illustrating "Peribronchial Phthisis," a condition that will be more fully explained by him in a forthcoming paper.

WIGAN MEDICAL SOCIETY.—A meeting of this society was held on Nov. 30th, Mr. F. L. Angior, the President, being in the chair.—Dr. J. Thomson Shirlaw read a paper on cases of Perforated Duodenal Ulcer in which Mistaken Diagnoses of Lead Poisoning were made. He first read notes of a case occurring in his own practice, a painter who had undoubted symptoms of lead poisoning and who died rather suddenly after a very brief illness, mainly of an abdominal nature, emphasising the fact that on several occasions the colicky pain was relieved by pressure on the abdomen. At a post-mortem examination conducted by himself and Dr. A. Matheson a large posterior duodenal ulcer was found which had perforated into the lesser peritoneal cavity. There were also marked changes in the kidneys, one of which was enlarged and the other contracted. He subsequently read notes of seven or eight other cases where from the symptoms present, the occupation, &c., a diagnosis of plumbism had been made, in all of which were found post mortem one or more perforated ulcers in the duodenum. Next Dr. Shirlaw recalled the classic symptoms of perforated ulcer of the duodenum, compared these with the symptoms in his own case and the others mentioned, and drew attention to the great difficulty of arriving at a correct diagnosis, not only as between duodenal ulcer and lead poisoning, but of duodenal ulcer itself. He then described the post-mortem appearance of the alimentary tract in chronic lead poisoning and in lead poisoning experimentally produced in rabbits, and finally propounded the question, "Does lead poisoning predispose to, or cause, duodenal ulcer?"—Ten of the members present took part in the discussion which followed. Of these, Dr. R. Prosser White, certifying factory surgeon for the district, discussed the modern pathology of plumbism, and pointed out that Dr. Shirlaw had broken new ground by suggesting a causal relation between chronic lead poisoning and duodenal ulcer.—Dr. F. E. Wynne, who was present as a guest, gave a short account of an outbreak of lead poisoning at Leigh, and mentioned that in the only case in which a post-mortem examination was made a perforated duodenal ulcer was discovered.—Dr. Shirlaw, in replying, read a number of letters which he had received from medical men of note to whom he had written on the subject, mostly depreciating any idea of a causal relation between the two diseases.—A short paper was afterwards contributed by Dr. R. Buchanan on a Medical Library, and the discussion was adjourned to a future meeting.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Dec. 6th, Dr. A. Emrys Jones, the President, being in the chair.—Dr. J. B. Burt (Buxton) read a paper on the Nomenclature of the Chronic Arthritic Diseases. The great chronicity of this group of diseases was one of the important causes of the bewildering terminology and classification. By the time the cases came to be examined post mortem secondary changes had occurred; thus diseases with an entirely different beginning might show identical anatomical changes. Those secondary changes chiefly responsible for obscuring the clinical and pathological picture were due to wear and tear. Mr. Lane had already proved that the excessive use of a healthy joint led to the formation of osteophytes, bony outgrowths, and destruction of cartilage. Slides were shown illustrating these formations in the cobbler's thumb, the miner's right hip, and

[1] Brit. Med. Jour., Oct. 1st, 1910.

in the left knee of a man with a right hemiplegia. There was also a demonstration of the bones of horses suffering from bony spavin, ring bone and side bone to prove that bony formations might be produced by concussion alone. It was suggested that similar changes in diseased joints were due to wear and tear. Various facts proving this were quoted, and it was shown that the chronic diseases where movements were encouraged, such as chronic gout and senile arthritis, were the diseases in which bone formations were most often found, whereas those diseases where there was great infiltration of the ligaments, severe destruction of bone, or great pain on movement, very rarely showed osteophytes. But if this latter group improved sufficiently for the joints to be moved and thus exposed to wear and tear, then, and then only, did they find osteophytes and bony additions. The clinical and X ray features of the named types of arthritis were compared and it was shown that absence of bony change, atrophied and hypertrophic bony changes might occur as a different phase of the same disease. Hence a nomenclature based on X ray findings was valueless. Up to the present time the terminology had depended on the clinical and pathological findings. The present confusion proved it a failure. This reduced them to a classification founded on etiology. Infective, neuropathic, degenerative, and metabolic were suggested as the four main group names in the classification of chronic arthritic diseases.

Reviews and Notices of Books.

The Disorders of Post-Natal Growth and Development. By HASTINGS GILFORD, F.R.C.S. Eng. With 65 illustrations. London: Adlard and Son. 1911. Pp. 727. Price 15*s.* net.

THE author begins by introducing us to Sir Jonathan Hutchinson and "his marvellous clinical insight" in connexion with a case of premature old age engrafted upon or running side by side with a condition of immaturity or infantilism. The study of this case led Mr. Gilford to the discovery of another form of infantilism—obviously not common infantilism—distinguished by delay of development. These two morbid conditions, spontaneous and premature senile decay, or "progeria," and spontaneous persistent immaturity, or "ateleiosis," furnished him with matter for cogitation and led to a consideration of the larger question of differences between growth and development and between the growth and development which go on in the whole man, in his individual organs and in his individual cells. After dwelling on the marked artificiality in the classification of disease the author proceeds to define his subject. Human development does not end at birth; indeed, it may be said only to begin at that epoch, so that the prenatal period is no more than a genealogical introduction to the forthcoming chapters of development. The author's contention is that most of the diseases to which we are subject are diseases of growth or of development, and that by far the larger number of these do not begin until after birth. Parts of this work have appeared in various journals, and the first skeleton of the subject appeared in THE LANCET in 1900. Though the original articles have been much modified they may be said to constitute the framework of this book.

Part I., extending to about 130 pages, deals with "general considerations." That the author's outlook is both wide and philosophical we may gather from the fact that he claims that we must look upon not only the clinicians and the laboratory pathologists as our leaders but also on such men as Darwin, Galton, Mendel, and Bateson, and must regard them as being as truly pioneers of medical science as Sydenham, Trousseau, or Laennec. He incidentally remarks that one of the most neglected departments of medicine is historical medicine, and that biology must be our guide as we thread our way through the intricacies of the diseases with which he deals. The first part is divided into 11 sections, and is devoted to an explanation of the terms "growth" and "development," and to a definition of those diseases or disorders which are essentially natural processes, dislocated from their proper setting, and either falling short of their proper degree or carried to an unhealthy excess. The facts are marshalled in orderly sequence. Growth and nutrition, though intimately related, are distinct processes, and they, with development, constitute a trinity which the author likens to the three primary colours of the spectrum. Each has an individual existence, but under natural circumstances is so blended with the other two as to lose its identity. The author then proceeds to discuss the relations of normal development to: (1) the cell; (2) the organs; and (3) the complex animal.

Development, according to the author, is a qualitative process of two kinds, ontogenetic and phylogenetic, while growth is a quantitative process. Moreover, development is coterminous with life, and is either progressive or retrogressive. Development and degeneration are often spoken of as if they were two distinct processes, whereas they are merely different phases of the same process. This leads to an interesting study of the structural changes in senile decay, whence it appears that the tissue changes of old age are to be known quite as much by the re-appearance of embryonic characters as by actual decay; while senile degeneration and retrogressive development are identical. These two propositions furnish the keystone to the whole subject of perversions of development. Defective control is the main distinguishing feature of the tissue changes alike in second childhood and in first childhood.

Development itself is the outcome of two opposing tendencies—one, heredity, conservative in nature; the other, variation, which is changeable. It is either reactionary or progressive. The author is careful to define and illustrate the separation of the disorders of growth and of development from other diseases, such as those of extrinsic origin due to external agents, the most important of which are the toxins.

Amongst the diseases of intrinsic origin, the most important are pre-natal malformations and tumours. An elaborate account is given of the causes of tumour growth, amongst the chief causes discussed being lead, alcohol, and the toxins of tubercle and syphilis. The innocent tumours are cryptogenous, sporadic, sometimes hereditary, progressive, and incurable by drugs, while cancers—the term is used in a wide sense to include sarcomata and is taken as synonymous with "malignant disease"—in addition are rhythmic or intermittent in their course, and malignant or lethal. The innocent tumours are growths, the malignant degenerations. There are also diseases of mixed intrinsic and extrinsic origin, such as chronic Bright's disease, cirrhosis of the liver, goitre, leukæmia, &c. Degeneration, infantilism, and senilism are then defined and illustrated.

Part II. (pp. 141–211) deals with post-natal growth and development of *cells*, including innocent tumours, defective development or infantilism of cells, premature degeneration or senilism of cells—e.g., cancers, including their clinical characters, the relation of the cancer process to allied conditions, the structure and pathology of cancer, multiple cancers, and the relation of cancer to old age. One point may be noted, that 80 per cent. of all cancers in males are of the alimentary tract, whereas in 80 per cent. of all females they affect the organs of generation and lactation. Before the age of 35 cancer is more common in women than in men. As to the use of arsenic in this disease, the author states that "one can only say that there is apparently more evidence in its favour than there is for any other drug, and that it ought to be given in every case of cancer, whether operated

on or not" (p. 179). Cancers are not due to a generalised infection; they are local disturbances.

Part III. (pp. 215–466) relates to *organs*, and is particularly interesting. It is divided so as to deal with (1) external organs in the following order: the extremities, the cavity of the nose, muscle, and the breast; (2) the fibrous or parenchymatous group, including the liver and its cirrhoses, the kidney and primary Bright's disease, the nervous system, the gastro-intestinal tract, the arterial system, and the uterus; (3) the cellular or parenchymatous group—e.g., blood, which is considered as a true tissue, thymus, spleen, and lymph glands; and (4) the skeletal group, such as overgrowth of the skeleton, including rickets as a minor variation, defective development or infantilism, osteomalacia, osteitis deformans, and arthritis deformans.

Part IV. (pp. 471–686) treats of the disorders of general growth and development as they affect that combination of cells and organs which constitutes the *man*. First, the abnormal defect of growth known as dwarfism is considered, including phylogenetic or racial dwarfs, and ontogenetic or individual dwarfs. Then gigantism, or excess of growth, abnormal immaturity or infantilism, and premature senility, senilism, precocity, centenarianism, and such general disorders or anomalies of sex as under-development or over-development characterised as feminism and masculinism. There are interesting chapters on obesity, myxœdema, acromegaly, idiocy, and cretinism, while a particularly full account is given of the rare diseases known as ateleiosis and progeria, both of which subjects are illustrated by several striking portraits. Most of the illustrations have reference to Part IV. In regard to the subject of gigantism we would ask the author to glance at the work of Launois and P. Roy, "Études Biologiques sur les Giants." In Part V. the author gives a general summary, and states his conclusions with becoming modesty.

This is, indeed, a most thoughtful and valuable volume, full of interesting details and suggestive analogies, obviously the outcome of much critical examination and study of disease in some of its less-known aspects. We have given throughout this notice the author's views, largely without comment. He remarks that his book is still far from complete, and that some day he may deal with what has been omitted. He seeks to establish his conceptions on a biological basis and to show that a common principle runs through the manifestations alike of the phenomena which constitute health and of those that are grouped as disease. We think that the physician, the pathologist, and the biologist will agree with the author that he has succeeded "in showing that that which constitutes disease at one time or from one aspect is normal at another time or from another aspect—that the same process may be either biological or pathological, according to the view from which we regard it."

Clinical Surgery. (Oxford Medical Publications.) By C. B. LOCKWOOD, Surgeon to St. Bartholomew's Hospital. Second edition. London: Henry Frowde, and Hodder and Stoughton. Pp. 389. Price 5*s.* net.

THE value of clinical lectures depends chiefly on the fact that in them the student obtains a view of the subject from a different point of view than that afforded him in lectures on principles or in systematic text-books. The true clinical lecture deals mainly with the clinical aspect of the cases, and it should be illustrated by the relation of cases to enforce the main points. Mr. Lockwood has done well to reprint these lectures, and we are glad to see that they have attained to a second edition. They are written as they were spoken, and though when read they cannot have all the force of spoken words, yet they are wonderfully alive, and rivet the attention by their earnestness and by the recognition that they are based on a thorough knowledge of the subject with which the author is dealing.

Let the reader open the book where he may, he will find something to interest him, some point of importance to which his attention is directed. In this edition there has been added a lecture on fracture of the patella and one on the amputations at the hip and shoulder.

Immune Sera: a Concise Exposition of the Main Facts and Theories of Infection and Immunity. By Dr. CHARLES FREDERICK BOLDUAN, Bacteriologist, Research Laboratory, Department of Health, City of New York. Fourth edition. London: Chapman and Hall. New York: John Wiley and Sons. 1911. Pp. xi. and 226. Price $1.50.

THE fourth edition of Dr. Bolduan's book has undergone extensive revision and enlargement, and now constitutes a very complete and readable summary of the main facts and theories in the field of immunity. Starting with an account of antitoxins, including the nature of toxins and the allied substances known as toxons and toxoids, the author deals consecutively with agglutinins, bacteriolysins and hæmolysins, precipitins, cytotoxins, and opsonins. A section is next devoted to snake venoms and their antiserums. A brief account of the phenomena of anaphylaxis is followed by a section on infection and immunity, considered in the light of the preceding sections and of other recent researches. A few pages are devoted to the subject of bacterial vaccines, and the last chapter deals with the principles underlying the treatment of syphilis with salvarsan. In a series of appendices a brief account is given of the Wassermann test for syphilis and of Noguchi's modification of this, of the method recommended for examination of the blood preparatory to transfusion, and of various less-known tests, such as the meiostagmin reaction, the cobra-venom test, and so forth. In each section the matter is first dealt with historically—a method which cannot be too highly recommended. The accounts given of modern research are clear and impartial, the author not hesitating to point out difficulties in such matters as Ehrlich's side-chain theory, and criticising some practical methods, such as Wright's control of vaccine injections by estimation of the opsonic index. We should have been glad if he had carried this procedure somewhat further and set out a little more definitely the conclusions he has himself arrived at in questions in which there is conflict of opinion. But we realise that in the obscure field of immunity no approach to certainty has yet been reached, and that consequently dogmatism is unjustifiable. The book has been much improved since its first appearance, and we cordially commend it in its present form.

Du Rôle de la Cholésterine dans le Développement de l'Artériosclérose et de l'Athéroma, Étude Clinique et Thérapeutique. Par M. le Dr. G. LEMOINE, Professeur de Clinique Médicale à la Faculté de Médecine de Lille. Paris: Vigot Frères. 1911. Pp. 62. Price 1.50 francs.

IN this small book Professor Lemoine records some ingenious speculations as to the part played by cholesterin in the animal economy. He affirms that this substance is by no means excrementitious in nature, but that it and its compounds in the body act as antitoxins, enabling the organism to fight against infections and toxins, more especially against tuberculosis. He finds that there is a deficiency of these substances in the tissues of patients suffering from tuberculosis, and he treats them by means of cholesterin and of lipoids extracted from the liver. On the other hand, he believes that in other individuals of gouty

or arthritic habit the antitoxic function of the liver is developed in excess and leads to an excessive formation of cholesterin bodies, constituting a condition of cholesterinæmia. He has found experimentally that cholesterin is capable of raising blood pressure, and he believes that the excess of this substance in the blood is the cause of hypertension and leads further to the deposit of cholesterin in the walls of the vessels, constituting the essential lesion in arterio-sclerosis and atheroma, the calcareous and other changes being regarded as secondary. He maintains that stout people, even of gouty type, usually escape high tension and arterial changes, which he explains by supposing that their superabundance of fats serves to dissolve any excess of cholesterin which they may form. On these suppositions he has evolved a treatment for arterio-sclerosis which consists in the administration of a "sclerolytic" solution prepared from ethereal extracts of liver from which the cholesterin bodies have been removed and to which certain salts, such as sodium phosphate and sodium glycerophosphate, have been added. Although some experimental and clinical evidence is adduced to support these views, Professor Lemoine's contentions appear to us highly speculative.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. New Series, No. 46. *Malaria in the Punjab.* By Major S. R. CHRISTOPHERS, M.B. Vict., I.M.S., Assistant to the Director, Central Research Institute, Kasauli. Calcutta: Superintendent of Government Printing, India. 1911. Pp. 135. Price 2 rupees, or 3*s.*

THIS volume of the Scientific Memoirs constitutes a very complete exposition of its subject. In the introduction the author gives an account of the physical features, the population, and the rainfall of the province of which it treats. This is followed by a chapter on the autumnal epidemic malaria of the Punjab; although the latter has so dry a soil, yet the recorded death-rate from fevers is higher than that for most parts of India, whilst a very marked feature of the disease is its seasonal character.

In Part II. the autumnal epidemic fulminant malaria is considered, and the epidemic of 1908 and its distribution are described; it affected to greater or less extent almost the whole of the Central and Eastern Punjab. Notice is taken of the previous epidemics in the Punjab. The conditions at Amritsar and other towns are described, as also those in rural areas. Other points noted in this section are the conditions in non-epidemic areas and in epidemic areas in non-epidemic times. The part concludes with some observations concerning epidemic and endemic malaria. In Part III. are considered the determining causes of fulminant malaria with respect to the anopheles in the Punjab, the rainfall and temperature, the physical features of the country, and the human factor. There seems very little doubt that the two factors, rainfall and scarcity, are the determining causes of the epidemic malaria of the province. Part IV. contains a most interesting account of the experimental work performed concerning the mechanism of fulminant malaria, the nature of intense malaria, and the spleen-rate and parasite-rate, and the relations of these two rates to epidemic conditions are fully set forth. Finally, this section concludes with the account of experiments upon the quantitative factor in the transmission of proteosoma to sparrows by the bites of culex.

Major Christophers, as the result of the foregoing research, comes, amongst other matters, to the following conclusions: That in the Punjab malaria is manifested in two ways—viz., as "endemic malaria" and as "autumnal epidemic" or "fulminant malaria," of which the latter is by far the most important considered in an economical sense; that past epidemics have affected all parts of the submontane tracts, but have shown a special frequency over certain areas; that epidemic malaria attacks most severely those communities already showing a high degree of endemic malaria; that excessive mortality and its conspicuously infantile character especially characterise the epidemic conditions; and that the determining causes of epidemics are excessive rainfall and scarcity. The Memoir concludes with the subject of the prophylaxis of malaria in the Punjab, the first step of which must be the removal or prevention of flood water, and until drainage can be instituted satisfactorily the use of quinine must be pushed to the utmost.

Rose and Carless's Manual of Surgery for Students and Practitioners. Eighth edition, revised by ALBERT CARLESS, M.B., M.S. Lond., F.R.C.S. Eng., Professor of Surgery in, and Surgeon to, King's College Hospital. London: Baillière, Tindall, and Cox. 1911. Pp. 1406. Price 21*s.* net.

THIS is the first appearance of this work since the death of Mr. Rose, and though it retains, and for many years will retain, its old title, it represents the views of its editor, Mr. Carless. Almost from the moment of its first issue it took the place of the most widely read work on surgery in this country, and this position it has held ever since. As time passes it has grown in bulk, until now it can hardly be looked upon as one of the smaller manuals on the subject, for the volume contains more than 1400 pages of by no means large print. This increase in size has been mainly due to the ever-extending bounds of surgery; and we can hardly wish that the work were any smaller than it is, for it is all so well written, so clear, and so well fitted for the mind of the student. It is surely needless to say more than that it has been brought by its editor thoroughly up to date, that it contains all that the student will be required to know at his examinations, and that anyone, be he student or in practice, will be able to find here a full description of any surgical disease or operation about which he may wish to obtain information. The book is wonderfully free from errors, but we would point out that on p. 333, in the description of Fig. 106, a certain structure is spoken of as the "internal jugular artery."

La Poliomyélite Epidémique (Maladie de Heine-Medin): Etude d'Ensemble Suivie d'une Contribution à l'Étude des Méningomyélites et des Méningites à Médullo-virus de Landsteiner et Popper. Par le Docteur GEORGES SCHREIBER. Paris: J. Steinheil. 1911. Pp. 365. Price 10 francs.

RECENT researches, both epidemiological and pathological, have considerably increased our knowledge of the disease variously known as poliomyelitis, infantile paralysis, and Heine-Medin's disease, while the occurrence of epidemics in several countries has brought it into prominent notice. The researches upon the causal agent by Landsteiner and Popper, Flexner and Lewis, and Levaditi have demonstrated that this is an ultra-microscopic agent, which is capable of conveying the infection to chimpanzees and monkeys. In this book Dr. Schreiber presents an interesting and full account of this disease from the clinical, pathological, and epidemiological points of view. The bibliography at the end of the book extends to 38 pages and is well arranged. The subject matter is exhaustive and is illustrated by figures, tables, and brief records of cases selected from some of the original papers, so that it forms a most convenient and valuable addition to the literature of the subject, and it appears at an opportune time. Dr. Schreiber recognises the following clinical varieties of the disease: spinal, bulbar, cerebral, meningeal, ascending, descending, ataxic, painful, and abortive types. He describes the various experiments that have been carried out with the supposed causal agent, which he refers to as the medullo-virus of Landsteiner and Popper, and gives in detail the pathological appearances found in fatal

cases of the disease in the human subject, as well as in the experimental disease in the monkey. He describes the clinical features of the different forms and discusses their diagnosis. He brings forward reasons for supposing that some cases of Landry's paralysis are due to the medullo-virus, constituting the ascending form of poliomyelitis, to which he draws attention.

The second part of Dr. Schreiber's book is devoted to a consideration of the meningeal symptoms that may accompany the disease. These may precede the paralytic stage, in which case he describes the condition as a meningo-myelitis; or they may be the only symptoms, in which event he classes the cases as meningitis due to the medullo-virus. The latter condition constitutes one of the abortive forms of the disease. Instances of both these varieties are described as occurring in the epidemics in various countries. A number of illustrative cases are briefly described.

LIBRARY TABLE.

Transactions of the Glasgow Obstetrical and Gynæcological Society. Vol. VII. Sessions 1908-1909, 1909-1910. Glasgow: Alexander Macdougall. 1911. Pp. 20 and 207.—As these Transactions are records of the papers and specimens shown before the society for the sessions 1908-1909 and 1909-1910, a good deal of the information contained in them is already ancient history when the volume is published in 1911. For example, the first paper relates to a lantern and microscopic demonstration of an early human ovum (the Teacher-Bryce ovum) about which a book has already been published and noticed in THE LANCET of Oct. 3rd, 1908; while another important communication to the society—namely, a paper by Professor Schauta on the Treatment of Labour in Contracted Pelves, was also noticed in THE LANCET of Dec. 25th, 1909, in the Annus Medicus. Some of the more important papers contained in the Transactions are those on Pyelitis Complicating Pregnancy and the Puerperium, by Dr. W. D. Macfarlane, Jun.; Ovarian Tumour Complicating Pregnancy, Labour, and the Puerperium, by Dr. G. Balfour Marshall; an interesting address by Dr. J. Munro Kerr on Advances in Gynæcology in Recent Years; the Management of the Ureters in Abdominal Pelvic Operations, by Dr. R. Cochrane Buist; the Ureter in Cancer of the Cervix Uteri, by Dr. Archibald Leitch; and Modern Views of the Treatment of Fibroids of the Uterus from their Pathological and Clinical Standpoints, by Dr. J. Nigel Stark. The volume also contains very interesting reports on the work of the Glasgow Maternity and Women's Hospital for 1909, by Dr. David Shannon, as well as a report on 156 consecutive laparotomies performed in the gynæcological clinic of the Glasgow Royal Infirmary during the year 1909, with notes on the technique adopted, by Dr. G. Balfour Marshall.

Pharmaceutical Formulas; being the "Chemist and Druggist's" Book of Useful Remedies for the Drug Trade, Collated Chiefly from the "Chemist and Druggist" and the "Chemists' and Druggists' Diaries." By PETER MACEWAN, Phar. Chem., F.C.S., Editor of the *Chemist and Druggist*. Eighth edition, with a Supplementary Chapter containing the more Recent Formulas and Appendices comprising Matters relating to the Compounding and Sale of Pharmaceutical Products. London: *The Chemist and Druggist*. 1911. Pp. 1040. Price 10*s.* net; by post 10*s.* 6*d.*—The eighth edition of this useful work, of which the first edition was published in 1898, has undergone a thorough revision, with the result that there are 450 alterations and annotations in the text, while the new formulas number more than 400. Some idea of the wide scope of the book may be gained from the chapter headings: Toilet Preparations and Specialities; Preparations for the Hair; Dental Preparations; Perfumes; Beverages; Culinary and Household Requisites; Horticultural and Agricultural Preparations; Writing Materials; Varnishes, Polishes, and Stains; Lozenges; Miscellaneous Preparations; Photographic Chemicals and Preparations; Galenical and Medicinal Preparations; Bacteriological and Microscopic Work Preparations; a supplementary chapter on "Skin Creams"; and an Appendix of Weights and Measures, Medicine Stamp Duties, Use of Methylated Spirit, the Rideal-Walker Test for Disinfectants, Food and Drug Standards of Australia and the United States, Proprietary Medicines in Canada, Garden Pests, and Board of Agriculture Leaflets. There is a very full index. Many of the subjects are introduced by a brief descriptive essay. The synoptical reference list, prepared for the seventh edition, now having lost its interest and utility, has been omitted so as to make room for the hundred or more pages of new formulas that have been added. It will be seen that the book embraces a wide range of information that will be found useful, not only to druggists, but to medical men, dentists, physiologists, photographers, veterinary surgeons, farmers, gardeners, housewives, and, in fact, to almost everyone.

Zoo Folk Interviewed. By W. J. ROBERTS, F.Z.S. London: T. Werner Laurie. 1911. Pp. 215. Price 3*s.* 6*d.* net.—This book is a charming description of the dwellers in the grounds of the Zoological Society in Regent's Park. Mr. Roberts has a keen sense of the humorous side of animal life as well as an intimate knowledge of the habits of the creatures he describes, and he has anecdotes to tell and interesting information to impart which will be appreciated by everyone. Lions, tigers, elephants, bears, camels, giraffes—all the obvious animals—are described in a manner at once interesting and instructive; while the chief points of the animals whose appearance does not immediately attract the attention of the visitor are detailed in a way that will stimulate the desire for a better acquaintance with them. Incidentally the curious will learn also how it is that the squirrel has made the trees of Regent's Park its home, and will be enlightened as to the relation between the camel-hair brush and the animal whose name it apparently bears. The author has stories to tell, new and old. The story of the observer who, wishing to see whether the chameleon could change to two or three colours at the same time, placed the poor creature on a piece of tartan, with the result that it "bust 'is little self" in the attempt is old; but the story of the servant who, when asked by her mistress to bring the tortoise out of the coal-cellar, where it had been placed for protection during the winter, exclaimed, "What, that bit of stone alive? Why, that's what I've been breaking the coal with!"—is new to us. Another side of the author's treatment of his subject is indicated by a reference to the Girardinus poeciloides—interesting fish which are reared by the society and dispatched to malaria-infested countries, where they are turned into the rivers. These lively little fish, otherwise known as "millions," have a great fondness for the mosquito larvæ, and it is stated that they are instrumental in keeping the Barbados free from malaria. There are 25 black-and-white illustrations in the book and a coloured frontispiece of George the Mandril, "the fiercest beast in the Zoo," and the author might perhaps have added the ugliest.

Two Hundred Opera Plots. By GLADYS DAVIDSON, author of "Stories from the Operas," "The Old Testament Story," &c. 2 vols. Illustrated. London: T. Werner Laurie. 1911. Pp. 219 and 451. Price 3*s.* 6*d.* net each vol.—All lovers of opera, and many others who merely desire to avoid betraying ignorance, will be glad to have these two volumes, telling in a few plain words the plots of 200 of the best-known operas, from Gluck's *Orpheus and Eurydice*, produced in Vienna in 1762, to Leoncavallo's *Maia*, produced in Berlin last March. The composers represented number 84, and

include, besides all the classical ones, many whose names are but little known to the public at large. Each plot is preceded by a description of its musical character, the names of the composer and of the author of the libretto, the place and date of its first production, and the names of the principal characters. The two volumes contain 15 portraits of composers. There is a table of contents containing the operas under the names of the composers in alphabetical order, and an alphabetical index to the operas themselves. The date when the respective composers lived would have been a useful addition to their names, either in the contents or at the head of the articles, as in Bartlett's "Dictionary of Quotations."

The Physiology of the Human Labyrinth.—The Arris and Gale Lecture, delivered before the Royal College of Surgeons of England on March 18th, 1910, by SYDNEY SCOTT, M.S., M.B. Lond., F.R.C.S. Eng. Cambridge: W. Heffer and Sons, Limited. 1911. Pp. 24. Price 2*s.* net.—This lecture was published in THE LANCET of June 11th, 1910. Those especially interested in the subject will be glad to know that a reprint in stiff covers can now be obtained.

JOURNALS AND MAGAZINES.

Edinburgh Medical Journal.—In a valedictory address to the Edinburgh Obstetrical Society published in the December issue of this journal Dr. F. W. N. Haultain gives some reminiscences of Sir James Y. Simpson's association with that society. Dr. John McGibbon, in the same magazine, discusses repeated Cæsarean section, and records a case in which the operation was thrice performed on the same patient; he believes that there is little or no increase of danger in the second and following operations.

The Dublin Journal of Medical Science.—The need of medical inspection of school children in Ireland is enforced by Dr. O. St. J. Gogarty in a paper published in the December number of this journal. He notes that "every civilised country but our own (Ireland) has its school children medically inspected." Mr. Bertran C. A. Leeper records a fatal case of illness occurring in a woman, aged 20, and resembling Henoch's purpura. No post-mortem examination could be obtained, so that the exact nature of the malady remains obscure. Sir John Moore contributes notes of three interesting clinical cases, one of cirrhosis of the liver and perihepatitis, with jaundice, hæmatemesis, and purpuric symptoms; a second, of pneumonia and empyema, in which recovery followed thoracentesis and injection of antistreptococcal serum; and a third, of mediastinal lymphosarcoma involving the œsophagus, stomach, and liver, and compressing the trachea, loss of voice and extreme dyspnœa being the striking symptoms.

The Medical Chronicle.—The original matter in the November number of this magazine consists of Dr. F. W. Mott's address to the Manchester Medical Society on the subject of "Hereditary Transmission of Disease, especially in Relation to Anticipation." An interesting account is given of the tendency of hereditary diseases to appear at earlier ages in the members of each succeeding generation.

Jahreskurse für Aerztliche Fortbildung. Munich: Lehmann. Price M.16 yearly.—The September number of this Annual Post-Graduate Medical Course deals with affections of the locomotive organs and joints. Professor Lange contributes an article on Chronic Rheumatic Diseases. He divides these into: 1. Mono-arthritis, generally caused by local trauma or strain, with primary affections of cartilage and bony ends. The details of this affection are described in the hip, knee, and foot joints. 2. Chronic Polyarthritis. This is a primary affection of the joint capsule affecting many joints simultaneously, generally those of the fingers and hands. The latter cases are again divided into the afebrile varieties and those accompanied by fever. The tendency in all these synovial affections is to end in ankylosis. In their treatment the use of baths, radium, diet, purgatives, and orthopædic measures is considered. Professor Ludloff writes a most valuable article about the Treatment of Tuberculous Hip-joints. He distinguishes three main types of disease—viz., hydrops, diffuse disease of the synovia, and suppuration. The first variety is very rare. Resection of the joint is to be reserved as a last resource for cases of suppuration or necrosis. The method of extension in the correction of deformities is one which has some danger, but this can generally be avoided by special precautions. The application of a plaster case is regarded by the writer as the method of greatest use. An anæsthetic is administered to abolish muscular spasm, and at the same time any abscess is aspirated. Then the plaster is applied in a position of ease—that is, without any attempt to strain the limb into any special position. Both hip- and knee-joints are enveloped in the plaster, and a walking patten is incorporated in its lower end. It is allowed to remain for as long as possible, certainly for several months at a time. Professor Ludloff speaks from an experience of 1000 cases, and the care with which he describes the details necessary for the treatment makes his article of great value.

The October number deals with infectious diseases. Professor von Pirquet reviews recent work in Measles. The possibility of artificial inoculation has been demonstrated both in the cases of human beings and apes. The remarkable immunity enjoyed by very young infants—i e., below six months—is discussed at some length, and the conclusion arrived at that they receive this from the mother's milk, the mother having suffered from the disease herself. The significance of Koplik's spots is referred to. The blood changes consist chiefly in a leucopenia proportional to the gravity of the disease, and usually preceded by transient leucocytosis. Perhaps the most important aspect of measles is the increased liability which its victims show to suffer from subsequent tuberculosis, diphtheria, pemphigus, noma, and pneumonia. The nature and significance of this liability are considered. Professor Nocht writes about Beri-beri. After a careful account of its symptoms and etiology, he discusses the question as to its infectious nature or its dependence on some error of nutrition, and finds it undoubtedly associated with rice-eating. Professor Fraenkel writes on certain aspects of Tuberculosis. He says this disease accounts for more deaths than diphtheria, whooping-cough, measles, scarlet fever, typhoid fever, puerperal fever, diarrhœa, and syphilis together. Every third death between the ages of 16 and 60 is due to tuberculosis. He describes in some detail the advantages of some of the newer methods of detection of the bacillus, laying stress upon the "antiformin" method of segregation. The principal facts relating to the sterilisation of milk and the relationship of human and bovine tuberculosis are shortly discussed. A clear account is given of the various types of tuberculin tests and their control by the opsonic index, and the treatment of the disease with the different forms of tuberculin. The writer takes a very optimistic view of the results of sanatorium treatment, maintaining that in men 55 per cent., and in women 61 per cent., exhibit recovery lasting for three years. Some very interesting figures are given relating to the geographical distribution of the disease and its progress in different countries. In some countries, such as England, Scotland, Wales, and Massachusetts, the disease appears to be steadily decreasing, whereas in others, such as Norway and Japan, it is increasing.

ERRATUM.—In THE LANCET of Dec. 9th we published a review of "Experimentelle Bakteriologie," by Kolle and Hetsch, in which, unfortunately, the price was wrongly stated. The price is not M.30 for each volume but for the complete work.

THE LANCET.

LONDON: SATURDAY, DECEMBER 23, 1911.

The National Insurance Act.

WE publish this week accounts of three important meetings of the medical profession which have been held since the last issue of THE LANCET in Manchester, Birmingham, and London respectively. Our readers were many of them present at one or other meeting, while the lay press has done full justice to them, so that it has not been necessary in our report to set out more than the salient matters; but from these it at once appears that the feeling of the medical profession as a whole is not represented exactly by any of the resolutions which have been passed at the meetings. The resolutions, though similar in character, have not been similar in detail. At the Manchester meeting two resolutions were passed almost unanimously. The first pledged the medical profession to refuse to form a panel under the Act, or to undertake any duties in connexion with it; and by the second a National Medical Union was created to strengthen the hands of the British Medical Association and other societies and committees working in medical interests. At the Birmingham meeting three resolutions were passed, and with some evidence of a diversity of opinion. The first declared that the Act did not satisfy the demands of the medical profession as defined in the "six cardinal points"; the second declared the public interest to be jeopardised equally with the medical; and by the third resolution medical men came into line with the first Manchester resolution, after refusing to accept an amendment designed to allow participation in Local Insurance Committees. In London the first resolution declared that the "six cardinal points" were not guaranteed by the Act, and this was passed almost unanimously. The second resolution differed, however, from the resolution common to Manchester and Birmingham in that it declared, after affirming the fundamental importance of the demands of the medical profession, that medical men should refuse to accept any office for giving medical attendance and treatment under the Act until these demands have been definitely conceded. This was passed with practical unanimity, indeed with the same enthusiasm that marked the reception of the more complete cutting off of future negotiations implied in the Manchester and Birmingham resolution.

It was well known before the meeting in London that some of the supporters of the "six cardinal points" have not been absolutely convinced of the sacrosanct character of these points; that is to say, that a good many medical men have undoubtedly voted in favour of resolutions stating that the "six cardinal points" originally formulated by the British Medical Association are of paramount importance, while meaning that some of these points are of great importance to themselves, and some of them, no doubt, of great importance to other people, especially to the public dependent upon an efficient medical service. At the meeting in London the stand of the profession was transferred to some extent from the "six cardinal points" to a more general demand for just treatment. The meeting clearly elicited the view that the Council of the British Medical Association, however manful its efforts, had not obtained the inclusion in the Act of the "six cardinal points," or of conditions guaranteeing stability to the medical profession. The tone of the speeches was not of a much less intransigent character than those which were made with success in Manchester and Birmingham, and a limited and unwilling hearing was accorded to the supporters of the Council of the British Medical Association. The determination to leave unmentioned as far as possible the matter of the behaviour of the Council in sanctioning Mr. SMITH WHITAKER'S appointment as Deputy Chairman of the Commissioners broke down on several occasions. These personal matters, which are of the first importance to the British Medical Association but not of similar significance to the medical profession or the public, have somewhat overshadowed the constructive resistance that should be properly offered to the Act. The "six cardinal points," which the Council of the British Medical Association consider to be substantially secured by provisions in the Act, and which others cannot find therein with the same ease and clearness, are no longer the only basis of medical opposition to the Act. It is generally felt that by the Act it is proposed to buy the profession of medicine outright and at the lowest possible price.

The importance of the London meeting has been that by it there has been formed a continuous line of policy for the great English centres. Sir W. WATSON CHEYNE, in the quiet weighty words with which he opened the proceedings, sufficiently showed that the leaders of the profession are as alive to the possible evils underlying the Act as the general practitioner whose services it is proposed to commandeer upon vague and unsatisfactory terms. Sir ALFRED PEARCE GOULD criticised the Act upon broader lines than is signified by adherence only to the "six cardinal points," and proved that effective common action can ofttime be taken by those who do not see eye to eye with each other in details. We regret that a patient hearing was not given to Sir VICTOR HORSLEY and Dr. J. H. KEAY, for those who feel deeply that the Council of the British Medical Association is placed in a position that requires explanation ought, we think, to be willing to hear that explanation. There is force in the view that the Council owes such explanation rather to the members of its constituency than to a general meeting of medical men, but in the course of the speeches at the meeting the conduct of the Council was impugned, and the defence offered should have been heard.

Housing in Rural Districts.

IT is very generally admitted that a vast amount of the unwholesome and insanitary conditions existing in various parts of the country is capable of being remedied through the provisions of the various Public Health Acts which have been passed by the Legislature during the past 40 years. If those Acts were adequately enforced an immense improvement would be effected in the surroundings of a large number of people, particularly in the small towns and rural districts. The machinery for carrying out that improvement already exists, but unless it is put in motion it might as well be non-existent. As regards the housing of the working classes it is notorious that sanitary authorities have been particularly inactive. The Housing of the Working Classes Act, 1890, placed upon local sanitary authorities the obligation of making an inspection of their districts for the purpose of ascertaining the existence of uninhabitable dwellings, but a Committee of the House of Commons reported in 1906 that in rural districts especially the authorities had deplorably failed to fulfil their obligations in this respect. The Local Government Board has endeavoured through its medical inspectors, by persuasive communications and in other ways, to bring about improved conditions, but with only very partial success.

However, indications at last show that the authorities are awakening to a sense of their responsibilities. Hitherto the principal channel of communication as to the housing conditions of a district open to the Local Government Board has been the annual report of the medical officer of health. That official was directed to give in his report an account as to the adequacy and fitness for habitation of the house accommodation of the working classes residing in his district, as to the sufficiency of open-air space about houses and the cleanliness of their surroundings, and as to the supervision over the erection of new houses. Obviously his observations might be, and as a rule were, of a very vague and general character. With the coming into force of the Housing, Town Planning, &c., Act, 1909, and the Regulations of the Local Government Board as to the inspection of houses which have been made under the provisions of that Act, the Board will now be able to ascertain much more accurately and particularly which authorities are neglecting their duties and which are actively carrying them out. But under the Housing (Inspection of District) Regulations, 1910, a medical officer of health is required to state in his annual report the number of dwelling houses found on inspection to be unfit for human habitation, the number of representations he has made with a view to the making of closing orders, the number of closing orders that have been made, the number of houses made habitable both before and after closing orders have been made, and the general character of the defects found to exist. As the regulations have been in force for a complete year the reports of medical officers of health which will be issued during the next few months should show to what extent the latest Housing Act has proved successful in improving the dwellings of the working classes. If, as is almost certain, in some districts it is found that the authorities have continued their policy of inaction and have failed to exercise their powers there should be no hesitancy on the part of the Local Government Board in putting into force the compulsory powers contained in the Housing Act of 1909.

Annotations.

"Ne quid nimis."

ACUTE POLIOMYELITIS AND CEREBRO-SPINAL FEVER.

IN an annotation published in last week's issue of THE LANCET under the above heading we referred to a memorandum issued by the Permanent Secretary of the Local Government Board urging the desirability of making both these diseases notifiable. In this memorandum it was pointed out that at the commencement of some of the outbreaks of acute poliomyelitis some difficulty was experienced in diagnosis, owing to the similarity of the symptoms to those of cerebro-spinal fever. We have received a copy of a note by Dr. J. T. C. Nash, county medical officer of health for Norfolk, dealing with certain aspects of these two diseases, and with the prophylactic measures to be adopted against their spread. He has investigated certain cases of these diseases occurring in his own county. In the first of these he found a child of five years suffering from symptoms of cerebro-spinal fever, a sister having succumbed shortly before from acute poliomyelitis. The cerebro-spinal fluid was investigated by Dr. G. P. C. Claridge, who obtained a Gram-negative coccus indistinguishable from the diplococcus intracellularis meningitidis. It was found that both these children had been visiting a short time before in the neighbourhood of Stowmarket, where an epidemic of poliomyelitis had occurred. The most extensive outbreak in Norfolk of which Dr. Nash has been able to obtain particulars took place in the Downham rural district, following upon an epidemic in an adjoining neighbourhood in the county of the Isle of Ely. The cases in the Downham epidemic were undoubtedly cases of poliomyelitis with distinct paralyses, and some contact or other, direct or indirect, could be traced between several of them. Dr. Nash points out that although among the cases occurring in Norfolk two or three were diagnosed as cerebro-spinal fever, and in one of these, as already mentioned, the meningococcus or diplococcus intracellularis was obtained, it is generally held that poliomyelitis and cerebro-spinal fever are distinct affections caused by different infective agents. At the same time, he sees no inherent difficulty in supposing that the meningococcus may be capable of giving rise to the symptoms of both affections, and remarks that it would be curious if an inflammation of the spinal cord were not sometimes accompanied by symptoms of inflammation of the membranes and *vice-versa*. In this connexion it may be of interest to refer to a review published on p. 1778 of this week's issue of THE LANCET. Dr. Georges Schreiber, in an interesting monograph upon Epidemic Poliomyelitis, discusses in detail the meningeal symptoms occurring in that disease, and suggests that some of the abortive forms present meningeal symptoms only. In the note to which we have referred Dr. Nash insists that contagion in cerebro-spinal fever appears to be effected by means of the mouth and nose of sufferers or of carriers, and states that investigations have shown that in an epidemic of this disease, the percentage of carriers may be as high as 50 per cent. among members of families in which cases have occurred. He believes that a similar condition applies to poliomyelitis, although bacteriological proof is wanting, and he advises the same procedures for contacts of cases of poliomyelitis as are generally recommended for cerebro-spinal

fever. Every person (including the medical practitioner) who comes in contact with a case of either disease should take certain precautions by using antiseptic gargles and by antiseptic spraying or douching of the nose. Pocket handkerchiefs should be boiled, and other measures of disinfection applicable to notifiable infectious diseases carried out. Dr. Nash welcomes the increasing attention now being paid to the human factor in infection—viz., the mucous membranes of sufferers and contacts—and thinks that too much importance may be placed upon so-called disinfection of rooms and articles, which he regards as of secondary value in prophylaxis in comparison with the human factor.

THE WEEK-END IN THE OFFICE.

THE busy arena of commercial life known as "the office" has too often few attractions from the point of view of health. It is very often a badly lit and badly ventilated space, and while in London and old business centres many offices are underground and the personal accommodation is rarely as generous as it might be, in newer centres the provision for the growth of business premises has been unworthy. At the end of the working day some attempt is made to cleanse the office—the duster and broom are brought into requisition. Some dust is removed, some is scattered, and then, as a rule, the office is closed tightly in every direction. There is no pretence to "airing" it, and often enough the shutters are drawn. In the morning there is the same neglect to freshen the air before the day's tasks begin, and the clerk comes back to work in a stale, frowsy air. The condition after a week-end is worse where no pains are taken and no thought given. By carefully shutting all doors and windows, and excluding the light by pulling down the blinds or shutters, the air is allowed to stagnate over Saturday night, Sunday, and Sunday night, and the purifying influences of sunlight and fresh air are refused. It follows that any infective materials are left infective, and the dose must accumulate day by day, week by week. Under the conditions described, in fact, the office may become a breeding ground of disease—there are no light and air admitted to destroy the vitality of disease organisms. We are certain that an immense advantage to the health of those occupied in offices would accrue if steps were taken over the week-end to "air" and freshen the offices in our great cities, and to admit the light freely during the weekly vacation. That it is not done now may be witnessed by anybody walking through the streets of the City of London, or through the commercial parts of any great centre, on a Sunday. In the majority of cases the banks, insurance offices, and warehouses are locked up tight, door and window. The hygienic condition of these places would be vastly improved if the opportunity were taken of admitting air and light freely through them during the time the workers are taking their rest and recuperating.

THE EXPECTATION OF LIFE IN CONSUMPTION.

IN his annual report for 1910 Professor Saugman, of Vejlefjord Sanatorium, deals, among other matters, with the fate of the 1359 patients who were treated at the sanatorium in the period 1900 to 1908. He succeeded in tracing all but 28; but the task of writing to former patients for particulars, involving in some cases the despatch of three letters to each patient before an answer was obtained, has cost so much time and money that he proposes following for the future only the fate of patients in the two earliest and the two latest years of treatment. 51 per cent. of all the patients were fit for work at the end of 1910, while only 3·5 per cent. were still invalided by consumption, 40·5 per cent. had died from this disease, and 2 per cent. had died from other diseases. As 63 per cent. of the patients were in the third stage of the disease at the commencement of treatment, the above results are unusually good. With regard to capacity for work, 89·1 per cent. of patients treated in the first stage of the disease fulfilled this condition, while only 3·2 per cent. had died from tuberculosis; 2·6 per cent. had died from other diseases, and 3·7 per cent. were not traced. Of the patients treated in the second stage of the disease, 75·2 per cent. were still fit for work, and 16·3 per cent. had died from tuberculosis. Of the patients treated in the third stage of the disease, 32·6 per cent. were still fit for work, while 58·8 per cent. had died from tuberculosis. Professor Saugman concludes that with suitable sanatorium treatment 90, 60, and 22 per cent. of consumptives in the three stages of the disease respectively may expect to be fit for work eight to ten years after treatment. Attention is drawn to the improvement in the sanatorium results during the latter years, especially with regard to patients in the third stage of the disease. This is accounted for by the increasing number of patients in this stage who have been treated by the induction of an artificial pneumothorax, as many as 22 being thus treated in one year. This treatment has now been adopted for several years at Vejlefjord.

DAMAGED TOMATOES AND TOMATO SAUCE.

Mr. B. J. Howard[1] has spent much time in the field and factory studying the moulds and bacterial contents of tomatoes and tomato pulp as it goes through the process of manufacturing sauce or ketchup. From his records it appears that in the United States home-made sauce is practically free from moulds, while that made in factories is frequently contaminated with moulds. Low-grade sauces are frequently made from refuse and rejected tomatoes. One cubic centimetre of the resulting sauce may contain as high as 300,000,000 organisms, with a minimum of 10,000,000. Considerable light has recently been thrown on the changes that take place during the spoiling of tomatoes by Mr. Raymond F. Bacon and Mr. P. B. Danbar.[2] Tomatoes contain on the average about 6·4 per cent. total solids, of which 3·5 per cent. is invert sugar, 0·5 per cent. citric acid, 0·6 per cent. ash, 0·9 per cent. protein, 0·85 per cent. crude fibre, and about 0·05 per cent. fat. When tomatoes spoil as a result of the life-processes of bacteria, yeasts, and moulds the sugars are rapidly used up, being changed principally into acetic and lactic acids, alcohol, and carbon dioxide. In most cases the citric acid also is rapidly decomposed, so that the amount present serves as a valuable indication of the extent of decomposition. It is very easy to detect spoilage in tomato pulp or canned tomatoes, as such products, when perfectly sound, contain no volatile acids and a considerable percentage of citric acid and invert sugar, whereas, when spoiled, quite large amounts of volatile acids are present with little or no invert sugar or citric acid. But in sauces and other manufactured products of the tomato the legitimate addition of sugar and acetic acid in varying proportions renders ordinary analytical data of less value in deciding as to the soundness of the tomatoes from which these products were made. It has been found, however, that the nature and quantity of the acids present and certain analytical ratios seem to give some information on this point. A good tomato sauce is characterised by a high citric acid content and very little lactic acid, whereas spoiled tomatoes will have a low citric acid content and a high content of lactic acid. It appears that in tomato canneries it is customary to set aside the small and defective fruit, together with the skins, cores, and pieces of tomatoes that have been canned and

[1] Bureau of Chemistry, United States Department of Agriculture, Circular No. 58.
[2] Bureau of Chemistry, United States Department of Agriculture, Circular No. 78.

cook these to prepare a tomato pulp for the subsequent manufacture of sauce or ketchup during the dull season that follows the busy canning period. This pulp is thus stored for a considerable time in barrels which are not tight enough to prevent contamination with organisms and consequent fermentation during storage. The decomposition might be avoided by rejecting decayed tomatoes, sterilising the material, and storing it in lacquered tin cans. Manufacturers make use of two other processes. In one, the gravity process, the pulped tomatoes stand until the tomatoes rise as a result of fermentation; the clear liquid is then run off. In the other process, the tomatoes are mixed with a large amount of salt and allowed to ferment until the sugars, citric acid, and other changeable substances have disappeared; the product is then filled into cans without any sterilisation. The original papers, to which reference has been made, contain much experimental data, which will doubtless lead to the adoption of more careful methods of manufacture in the future. It would seem to be desirable to avoid all unnecessary decomposition, preserving the acids and sugars in the same condition in which they are present in fresh and ripe tomatoes. This fruit is so abundant, appetising, and wholesome that a plentiful supply, in the canned form, is of great value as a food in the winter months. The substitution of a decayed and fermented mush for the sound fruit is a crime against the public health, whether caused by cupidity, neglect, or ignorance.

THE TREATMENT OF AMŒBIC DYSENTERY WITH HEROIC DOSES OF BISMUTH SUBNITRATE.

IN India amœbic dysentery has been very successfully treated and the supervention of hepatic abscess largely prevented by the administration of ipecacuanha, a method of treatment which has recently been urged in emphatic terms, among others, by Major Leonard Rogers, I.M.S., professor of pathology in the Medical College, Calcutta. In the tropical parts of America the use of this drug in cases of amœbic dysentery does not appear to be so greatly appreciated, more reliance being placed upon the employment of bismuth subnitrate. At the eighth annual meeting of the American Society of Tropical Medicine held at New Orleans in May last a paper was read by Dr. W. E. Deeks and Dr. W. F. Shaw, respectively chief of the medical clinic and physician to the Ancon Hospital in the Panama Canal Zone. The authors explain that the treatment of amœbic dysentery (or, as they prefer to call it, amœbic colitis) by ipecacuanha has never appealed to their "physiological common-sense," and for that reason they had never even given it a trial. Moreover, the practice they have for some years followed has proved so satisfactory that they had no reason to resort to any other. Their method comprises complete rest in bed, a generous milk diet, irrigation of the lower bowel by saline or plain water, and the administration of heroic doses of bismuth subnitrate, a heaped-up teaspoonful, equivalent to about 180 grains by weight, being given suspended in almost a tumblerful of plain or effervescent water every three hours, day and night in severe cases, lessening the amount only when improvement is maintained. This treatment is named by the authors the "bismuth-milk-saline method." It has been pointed out that symptoms of poisoning might occur when such large doses of the subnitrate are given, but to this Dr. Deeks and Dr. Shaw reply that they have only met with four such instances among the many cases treated by them in the Ancon Hospital. The chief symptom which caused alarm in the four exceptional instances mentioned was cyanosis, which, however, soon passed off after the administration of magnesium sulphate. This untoward symptom was probably due to the liberation of nitrous oxide or similar gas in the blood through the decomposition of the bismuth salt. It is worthy of note that in all of the above-mentioned cases there existed some serious disease in addition to the dysentery, two of the patients having diffuse nephritis, one cancer, and one pernicious malaria. The medicinal preparations of bismuth are alleged to be "actively antiseptic" and to have a local sedative and astringent action on the mucous membrane of the intestines. The subnitrate does not act upon the specific protozoal organism of the disease, the entamœba histolytica, but upon the associated putrefactive symbiotic bacteria, the presence of which is essential for its growth. During its passage through the large bowel the bismuth subnitrate becomes converted into a sulphide. The nascent sulphur with which it unites is a derivative of the proteids through the action of the putrefactive bacteria; when the latter are destroyed and no further sulphur is liberated the subnitrate passes through the lower bowel white and unchanged. This usually occurs from 10 to 21 days after the commencement of the treatment. The authors contend that the lower bowel can in this way be rendered "antiseptic" as far as putrefactive bacteria are concerned. The convalescence of the patient is shown by the clean tongue, the restored appetite, and the normal temperature, and also by the disappearance of tenderness over the bowel and by the gain in weight. Unfortunately, some persons cannot continue the absolute milk diet which is so essential, but as soon as improvement commences they insist upon returning to solid food, and in many such instances relapses follow. According to Dr. Deeks and Dr. Shaw, the "bismuth-milk-saline method" of treatment of amœbic dysentery gives in almost all cases "a perfect result" if the lines laid down by them are properly followed; they also maintain that it gives "a maximum of cures with a minimum of recurrences and metastatic development, the most frequent of which is liver abscess." They recognise that in some occasional cases surgical interference in the form of cæcostomy may be indicated. From the statistics the authors supply, the method of treatment which they advocate has apparently proved very successful in the Panama Canal Zone.

ACETONE IN INOPERABLE CANCER OF THE UTERUS.

IN the *Maryland Medical Journal* for December Dr. A. Samuels has recommended the application of acetone to check hæmorrhage and lessen discharge and fœtor in inoperable cancer of the uterus. It is easily applied and is harmless, and thus has an advantage over caustics, which are painful and may penetrate so deeply as to injure healthy parts. This treatment was introduced by Dr. G. Gelhorn, of the St. Louis Skin and Cancer Hospital, whose method is as follows. Under anæsthesia the cancerous cavity is thoroughly curetted to remove as much dead tissue as possible. The curetted surface is dried with cotton wool. A Fergusson's speculum is introduced to protect the vagina, the hips are elevated, and through the speculum about half to one ounce of pure acetone is poured into the cavity. The anæsthesia may then be stopped and the patient left in position for from 15 to 30 minutes. The acetone is allowed to run out through the speculum by lowering the table and the cavity is packed with a strip of gauze soaked in acetone. The speculum is removed gradually and the excess of acetone which may have come in contact with the vaginal mucosa is wiped off with wet gauze swabs. The surface is then dried and a cotton tampon is inserted into the vagina to absorb any excess of acetone. The next application of acetone should be made after five or six days. Subsequent applications may be made twice or thrice weekly, according to the symptoms. If the practitioner is without an assistant

the patient may hold the speculum in position. Care must be taken not to allow the acetone to run over the vulva. As a precaution to prevent irritation it is well to coat the vulva and vagina with a layer of petrolatum. After the acetone is allowed to run out the vagina should be swabbed and a large cotton tampon coated with vaseline introduced into the vagina before the speculum is completely withdrawn. The tampon should be removed by the patient in four or five hours. The immediate effect of the application of acetone is a slight oozing, which soon ceases. The surface of the cavity becomes covered with a thin whitish film. A slight discolouration may be seen in some parts. This is due to the action of the acetone upon small bleeding points. The normal vagina is not appreciably irritated. Slight irritation of the skin may result if it has not been previously protected with petrolatum, and an intense burning sensation if the acetone is carelessly allowed to run over the skin, but this soon subsides. The remote result of the application of acetone is marked reduction of the fœtor. The discharge, which at first is profuse and watery, gradually disappears. Hæmorrhage becomes less frequent and less profuse. After three or four weeks the cavity becomes considerably diminished and its walls become smooth and firm. In one case they were so firm that a finger could not remove any friable tissue. With the checking of the hæmorrhages and discharge the general health for a time improves and the pain diminishes. But if the cancer has extended to neighbouring organs the pain may not be relieved, although the discharge and hæmorrhage cease. The use of acetone is contra-indicated when the disease is so advanced that an opening has formed into the rectum, peritoneal cavity, or bladder. Otherwise it may be used without fear, as it is not absorbed.

LEGALISED SUBSTITUTION.

THE art of substitution has reached such a high level nowadays that the necessity for definitions arises. During the last decade high courts, police courts, scientific tribunals, and so forth have had much of their time occupied in considering when it is that certain novel commodities are entitled to a time-honoured name, and so questions like the following have been discussed: What is marmalade? What is beer? What is leather? What is silk? What is champagne, brandy, whisky, port or rum? Many other articles might be mentioned, widely diverse in nature and composition, but having this in common, that they are capable of being handicapped in competition by the introduction of substitutes generally declared to be "just as good." To such interrogatories we may seasonably add, What is plum pudding? The obvious answer would appear to be pudding made in part, at any rate, of plums; yet what is generally called a plum pudding—the Christmas pudding—never contains plums, if we accept the definition of a plum that it is the edible drupaceous fruit of any one of various trees of the genus prunus. As everyone knows, the fruits used in Christmas pudding are generally raisins and currants, both of which are dried grapes. There are several puddings in the cookery books containing raisins which are called by various fancy names, but never "plum pudding"; there is also a pudding (reminiscent of school-days) containing currants, which is called a currant pudding or by offensive terms according to the temper of the speaker. We should not expect these puddings to be called plum puddings, and they never are; but when the currants and raisins appear in the Christmas pudding the product is called a plum pudding. With no logic it is agreed to accept the word plum as applicable to raisins or currants when they happen to be in Christmas pudding. If plum jam were asked for and a grape conserve were wilfully substituted we should expect such a bargain to be regarded as a misdemeanour within the meaning of the Food and Drugs Acts, but whether that should be the case when plum pudding is asked for and a pudding without plums (strictly speaking) is tendered is not so clear. It would no doubt be argued, in case anyone should attempt to interfere with the sale of Christmas puddings, that the customer was supplied with exactly what he expected to get—that is, a plum pudding without any plums.

FATALITIES FOLLOWING THE INTRAVENOUS INJECTION OF SALVARSAN

THE earlier fatalities which followed the use of salvarsan were attributed by Ehrlich to the presence of advanced disease of the nervous or cardio-vascular systems, which he stated were contra-indications to its administration. He claimed that with due care salvarsan was perfectly safe. Unfortunately, several fatalities have been recently recorded, and show that its administration, even in young and robust patients, is by no means devoid of risk. In an annotation [1] we described two American cases in which acute nephritis was produced in young men by an intravenous injection of 0·6 gramme. In one case fatal anuria supervened. The patient at the time of the injection had a characteristic secondary rash, and his urine contained a trace of albumin but no casts. Previously to acquiring syphilis he enjoyed uninterrupted health. In the other case the urine was perfectly normal, but after the injection presented all the signs of acute nephritis. In another annotation [2] we referred to the case of a robust man, aged 35 years, reported to the Académie de Médecine of Paris by M. Hallopeau. For a relapsing palmar and plantar syphilide the patient was given by a practitioner an intravenous injection of 0·3 gramme of salvarsan, which was well borne, and on the sixth day an injection of 0·4 gramme. Congestion of the face, vomiting, and epileptiform convulsions followed, and he died comatose. In the discussion which ensued Professor Gaucher declared that several deaths had followed the use of salvarsan at the Saint-Louis Hospital, and that almost all the patients died in the same manner, with epileptiform convulsions. In the *Medical Review* for December five cases of this kind are collected from German sources. Four proved fatal, and the necropsy showed the same condition in all—hæmorrhagic encephalitis. One recorded by Professor B. Fischer may be taken as an example. A healthy physician, aged 40 years, in the course of his professional work contracted a chancre on the septum nasi. There was a maculo-papular eruption. On March 28th, 1911, 0·4 gramme of salvarsan was injected intravenously. A slight rigor and several attacks of vomiting followed. In a few days the eruption faded and the primary sore rapidly healed. As a prophylactic against relapses he underwent a course of mercurial inunctions. Five days after its completion (on May 6th) 0·4 gramme of salvarsan was given intravenously. This was at first well borne, and after a day's rest in bed the physician saw his patients, but during the night he became ill, and on the following morning was found by Professor Fischer partially conscious. When roused he tried to answer questions, but with little success. There was constant movement of the upper part of the body. In the afternoon, after a fit of excitement, coma and Cheyne-Stokes respiration supervened, and in the evening there was opisthotonos. The temperature rose to 104° F., and death occurred at 5.15 A.M. on the following morning. The necropsy showed general parenchymatous degeneration of the organs and a fatty liver. The brain was diffluent and there was slight chronic leptomeningitis of the parietal and frontal regions. The pial vessels were distended. Microscopically, numerous punctiform hæmorrhages were seen around the minute vessels

[1] THE LANCET, Oct. 14th, 1911, p. 1085.
[2] THE LANCET, Nov. 4th, 1911, p. 1233.

of the basal ganglia and polynuclear leucocytes distending the perivascular spaces (hæmorrhagic encephalitis). A German case of fatal jaundice after the administration of salvarsan is also reported. Jaundice has been noted in several cases of the administration of the drug. At a meeting of the Royal Academy of Medicine in Ireland on Nov. 3rd Mr. H. Moore reported a case in which 0·5 gramme of salvarsan was injected intravenously in an early case of general paralysis in a man aged 25 years.[3] A severe reaction with rise of temperature to 103° followed. Six weeks later the injection was repeated and still severer reaction and death with paralytic symptoms followed. It is curious that most of the deaths have followed a second injection. This has led Professor Fischer to suggest that anaphylaxis may play a part. The point is important in connexion with the recent claim of some of the advocates of salvarsan that two injections are necessary to cure syphilis.

THE EXPLOSION AT AN OIL-CAKE MANUFACTORY.

THE inquest held at Liverpool upon the bodies of those killed in the explosion at Messrs. Bibby's oil-cake manufactory did not reveal any definitely ascertained cause for a disaster which caused the loss of 30 lives. The verdict of the jury was one of "Accidental death caused by dust explosion, the origin of which has not been clearly demonstrated." And they added to this, "Whilst we do not suggest that there is any blame to be attached to the management, we think that as the inquiry has demonstrated new dangers in dust special care should be taken with arrangements for ventilation and for the removal out of the danger zone of fine dust from the machinery." The evidence showed that in the making of feeding cakes for cattle at Messrs. Bibby's mills cereals and other ingredients were used which produced in the process of grinding a considerable quantity of dust, and also that it was recognised by those responsible that such dust was of a highly inflammable nature. In the preparation of rape seed for use benzine was employed in considerable quantities, but this process was not carried out in the part of the building where the fatal explosions originated. A disintegrator, known to the workmen as a "devil," working in a part of the building called by them the "devil's cellar," was used for pounding or breaking up materials for the cake, and explosions due to the ignition of the dust so caused were known to have taken place, but they had not before had any serious results. Machinery for the purpose of drawing away and collecting the dust was in use, but it was known that in spite of it some dust escaped into the air of the building. There was no mechanical ventilation, but large doors were kept open as freely as possible, and the windows were without glass. The first ignition of dust apparently took place in the "devil's cellar" and spread immediately to the other floors of the same building. To account for the ignition suggestions or conjectures were put forward, but no evidence of fact bearing directly upon the point was obtainable. According to the evidence of the firm's engineer, recent experiment showed that a flame such as that of a lighted match could have produced it, and the danger of this had been acknowledged by a rule forbidding workmen to smoke or to carry matches in the building. Only electric light was used, and every reasonable precaution was enforced. The engineer in his evidence, however, spoke of having found an unignited match on the day before the accident between a pair of electro-magnets, and he suggested that it might have been placed there by a lad in order that he might use it for smoking, but not have it on his person if searched. The same witness had suggestions to make as to how the explosion was actually caused. He described how he had found in the "devil's cellar" a large driving belt broken and an electric fuse gone. His suggestion as to this was that the breaking of the belt might have stirred up and driven into the air dust deposited upon beams and other resting places in its neighbourhood, and that the fusing of the electric wire, whether due to the breaking of the belt or not, had occurred at the same moment and ignited the dust. This, he explained, would account for the presence of a dangerous amount of dust in the air which should have been unusually free from it, because the explosion took place immediately after the dinner hour. Among other evidence given was that of Professor W. Collingwood Williams, who had found slight traces of naphtha in some of the cereals used by the firm, the presence of which might to some extent have contributed to the danger, and of Mr. Thomas Davies, consulting engineer, who spoke to the steps which might be taken to increase ventilation and reduce the amount of dust floating in the air. The verdict of the jury appears to be that which the evidence justified, and if it leaves the immediate cause of a very tragic disaster unaccounted for it should tend to prevent similar occurrences taking place in future by multiplying precautions the necessity for which has been so strikingly demonstrated. The dangerous character of dry, dusty, coal mines is well known and a method is in use which keeps the mine moist.

[3] THE LANCET, Dec. 2nd, 1911, p. 1556.

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION.

THIS association (honorary secretary, Dr. J. J. Perkins, 20, Hanover-square, London, W.) is actively engaged in forming a library and bureau for the collection of all matters relating to pulmonary tuberculosis from every point of view, and in all countries. It is intended that such information shall be available not only to members of the medical profession but to the public at large. We are asked to state that valuable assistance would be rendered if medical officers of health, school medical officers, and medical superintendents or secretaries of hospitals, sanatoria, tuberculosis dispensaries, and open-air schools would kindly place the association on their distribution list in respect of annual reports or other documents bearing on the question of consumption. Books, pamphlets, and reprints of articles from physicians and social workers in general would also be gladly received.

CHINESE GREEN TEA.

A CORRESPONDENT in China has sent us the following note: "For many years past, owing to the demand of the foreign public for green tea, it has been the practice of some growers in China to colour the leaf artificially. After the leaves are roasted, which is done immediately on being gathered, they are rolled, coloured, and quickly dried. Formerly Prussian blue with gypsum was used, then indigo, and latterly aniline dyes have been employed. The Chinese themselves do not drink coloured teas, though they are fond of adding flavouring agents, such as jasmine and rose petals. The main demand for green teas came from America, and much consternation has arisen at the news just received in China that any tea containing artificial colouring matter will be refused admittance through the American Custom Houses. This year's crop, consisting of several million pounds, will therefore be thrown back on the Chinese exporters' hands, though an outlet may perhaps be found for it in Russia. Two millions pounds which were sent to San Francisco in a single shipment have already been refused entrance. The percentage of colouring matter is so slight and so innocuous that the objection is more of an academic one than a real

danger to the public health. The rejection is a result of the active steps which are at present being taken in America, mainly by Dr. Wiley, the State chemist, to enforce the observance of pure food laws in every detail. It is a pity, however, that longer notice had not been given by the United States Government of its intention, as the injunction coming at this time will involve many Chinese growers in loss. The various tea guilds here are quite ready to prepare their teas in future without colouring matter. The demand for 'country green' tea in America originated in the liking for a certain kind of leaf with a soft greenish-tinted down on its back which was thought to be an evidence of the freshness of the tea."

A POWERFUL appeal has been issued by the Lord Mayor of London, Sir Thomas Boor Crosby, on behalf of the Building Fund of the Royal Society of Medicine.

THE library of the Royal Society of Medicine will be closed from Saturday, Dec. 23rd, to Wednesday, Dec. 27th, both days inclusive.

THE HEALTH OF THE ARMY IN 1910.

THE report on the health of the army that has just been issued shows that the improvement which has been so marked a feature in these statistics during recent years is steadily continuing, and that the changes in medical administration, costly though they have been, have conduced to efficiency in greater proportion than the mere expenditure in money would lead one to expect.

Improved Health of the Army.

In the Director-General's introductory letter, summarising the chief points of interest, and in Abstract XXIX., it is seen that the admissions to hospital, the number of men constantly sick, and the deaths are the lowest on record; only in the number of men invalided is there a slight increase as compared with the previous year. The figures are ratios per 1000.

	Admissions.	Constantly sick.	Deaths.	Invalids.
1889–1898 ...	997·3	59·85	9·03	15·36
1905–1909 ...	563·8	33·11	5·04	11·61
1909	504·8	28·86	4·10	8·65
1910	443 1	25·38	3·44	9·11

The figures for the year under review, when compared with those of the preceding quinquennium, and still more with the decennial ratios before the South African war, show that the improvement is neither slight nor transitory.

It may be of interest to contrast this result with the expenditure on medical services. For the ten years before the war, 1889–1899, the army estimates for total effective services averaged about £16,000,000 or £17,000,000 and the medical vote a little under £300,000; since the war, 1904–1910, the annual army vote has amounted to some £24,000,000 or £25 000,000, and the medical vote has approximated £450,000—that is, the total military expenditure and the expenditure under the medical vote have each in round figures risen about 50 per cent. It may be granted that the medical services have had their share in the increased outlay during the last ten years. What is there to show for this? The admissions to hospital in 1910 are considerably less than half what they were on an average in the decennium before the war (1889–1898); the number of men constantly ineffective by being sick in hospital is somewhat less than half, and the number of deaths not much more than one-third, of the corresponding numbers in the earlier period, while the number lost to the service by invaliding in this last year is not more than 59·4 per cent. of the former wastage. If the medical services have cost half as much again in the recent period as they did before 1900, the result of the expenditure has been more than a doubling of the efficiency, as shown by a halving of the sickness, and a still greater reduction in the mortality in the army.

The total force, amounting to 215,796 warrant and non-commissioned officers and men, may be divided into three groups from a medico-statistical point of view: the troops serving in the United Kingdom, who form about one half of this number (viz., 108,614); the army of India (72,491); and the remainder serving throughout the rest of the empire (34,691).

Ratios per 1000.

	Admissions.	Constantly sick.	Deaths.	Invalids.
United Kingdom.				
1889–1898 ...	712·5	41·14	4 32	16·98
1905–1909 ...	428·3	24 34	2·84	14·01
1910	346·0	20·42	2 42	11·07
India.				
1889–1898 ...	1464 7	89 61	16·43	14·78
1905–1909 ...	802·5	47·26	9 08	8 99
1910	576·5	31·93	4·77	6·51
Colonies.				
1889–1898 ...	869·6	54·37	8 44	11·24
1905–1909 ...	505·8	32 29	4·70	8·56
1910	457 3	27·21	4·21	7·58

This marked and continuous improvement is the result, we conceive, of four factors: improved medical administration; advance in treatment, especially the great increase in operative procedure during recent years; the adoption of more scientific and more vigorous methods of prevention; and the employment of medical officers as medical inspectors of recruits, which has led to greater care in their selection.

Recruiting.

The number of recruits medically examined has been 45,671, a reduction of about 10 per cent. on the number examined in 1909, and no less than 25 per cent. less than those examined in 1908; the reasons suggested in the report as contributing to this diminution are emigration, revival of trade, and the existence of labour exchanges, which frequently obtain employment for men out of work who otherwise would enlist.

The ratio of rejections, 295·42 per 1000, is slightly less than for the previous year, and still lower than the decennial average. This, however, does not indicate any improvement in the physique of the men presenting themselves for enlistment, because, in the first place, the higher standards of height and chest measurement in force during 1909 have been abolished; and, secondly, there has been a slight increase in men discharged as medically unfit within three months' service. The great majority of the recruits were growing lads, many of them out of work and in poor condition; on the whole, however, the quality is considered to have been satisfactory. The lads will fill out in time, but will not be capable of doing the full work of a trained soldier for a year or two after enlistment. The chief causes of rejection have been, as usual, loss and decay of many teeth (56 95 per 1000 recruits examined), defective chest measurement (43·97), and heart disease (40·38). Defective vision (18·15) was practically the same as in the previous year, as was the disability from defective teeth; defective chest measurement was less frequent, also defective height and weight. This was not, however, due to improvement in the lads' physical condition, but to lowering of the standards to the normal recruiting requirements—viz. (for infantry), a height of 5 ft. 3 in., and a chest measurement of 33½ to 35 in., a range of chest expansion of 2 in. being required.

The condition of the teeth of the young adult working-class population is of considerable importance for the national welfare; the medical inspection of school children has now been carried out for some time, and improvement is to be looked for in the adult in the near future—perhaps it is too soon to expect to see any as yet; none is visible, at any rate, in the class of men and lads that present themselves for enlistment. A considerable sum is spent annually on the dental treatment of recruits, and whatever else it does for them, their first term of service, at any rate, ensures their possession of a set of teeth in decent condition.

The rejections for heart disease, 40 38 per 1000, were 7·32 per 1000 more than in the year preceding, and 17·41 per 1000 more than in the previous decennium; in addition, 1·84 per 1000 were rejected as unfit within three months of enlistment. The total number of men, presumably healthy in other respects, found to be unfit for the

not over-exacting work of the soldier was thus 1928 in the course of the year; the report states that any special cause for the increase was not apparent, except on the hypothesis of inferior physique generally, owing to reduction of the chest measurement standards demanded. We think this is a serious matter that needs careful inquiry with regard to the general question of physical degeneration in this country. Defective vision, 18·15 per 1000, caused much fewer rejections than the decennial average (32·09), the reason being that the vision test is now by Snellen's test types instead of by the dots formerly in use.

Of the total number of recruits finally approved during 1910—viz., 31,547—after deducting those under 18 years of age (2885), the average age was 19·6 years, the height was 66·3 in., the minimum and maximum chest measurements (average) were 33·4 in. and 35·8 in., the range of expansion 2·6 in., and the weight 128·8 lb. These figures are, within a very small fraction, all equal to those of the preceding decennium, and must be allowed to be, on the whole, satisfactory.

The system of physical training, introduced in 1906, is reported on favourably, though in some commands more instructors and smaller classes would be advantageous; no recruits have been discharged within three months of enlistment owing to any disability connected with the training system, either directly or indirectly.

Invaliding.

There are five principal causes of invaliding in the Army: diseases of the circulatory system, nervous, tuberculous and digestive diseases, and syphilis: all of these, except the tuberculous group, show a slight rise, and the total figure of 9·11 per 1000 is 0·46 above the ratio for 1909, though well below that for the quinquennium or any single preceding year. Until 1908, circulatory diseases had been in every year, except 1905, the chief cause for invaliding; this is now the third year in succession that they take second place, with a ratio of 1·56 per 1000; before 1905 the ratio had always been above 2·5 per 1000. The reduction appears therefore to be established, and although the report does not allude to this point, it may be suggested that alterations in methods of drill and in details of clothing and equipment have brought about the improvement. The fractional increases in nervous affections, which accounted for 1·63, in digestive diseases with 0·64, and in syphilis with 0·26 per 1000, are not of importance. Tuberculous affections (1·24 per 1000) remain year by year at about the same level. The total invaliding ratio, 9·11 per 1000, though fractionally above the unprecedentedly low figure of 8·65 in 1909, is now, we hope, established permanently at a low level.

HEALTH OF THE TROOPS IN THE UNITED KINGDOM.

Sickness, Deaths and Invaliding.

The admissions to hospital, number of men constantly sick, and the rates for deaths and invaliding have already been given above.

In the London District the admissions were 604 per 1000, the number constantly sick 36·9, and the invaliding 14·8; in the Western Command these ratios were 245, 13·3, and 8·9 respectively. On comparing the different arms of the service we find that the Household Cavalry have the highest admission rate (693 per 1000), and the Foot Guards the highest number constantly sick (34); the infantry of the line, on the other hand, have only 359 admissions per 1000 and 21·7 constantly sick. On comparison with the statistics for the preceding five years all branches of the service show an improvement in the number of admissions to hospital except the Household Cavalry; and all show a lessened inefficiency from sickness, again with the exception of the Household Cavalry, and to a very slight extent of the Royal Engineers. This excessive liability to illness on the part of the Life Guards and Horse Guards, as shown by an admission rate of 698 per 1000, compared with a rate of 482 for cavalry of the line (who have similar duties) and 496 for the Foot Guards (who serve in the same stations), is a matter for which some explanation seems desirable. It is noted that the Foot Guards have greatly improved their position compared with the other branches; their admissions have been 496 and their constantly sick 34 per 1000, as compared with 701 and 48·7, the ratios for the quinquennium.

The most fatal diseases amongst soldiers at home were pneumonia (0·27 death per 1000), tubercle of the lung (0·13), and valvular disease of the heart (0·11). The diseases causing most sickness were gonorrhœa, syphilis, and soft chancre, which together caused a constantly sick ratio of 6·48 out of the total 20·42 per 1000. This, however, is an improvement on the average for 1905–09, which was 7·10. The chief diseases causing invaliding were diseases of the nervous system (1·63), heart disease (1·43), and tubercle (1·40 per 1000); in each case there was a slight improvement on the quinquennial average. Diseases of the heart and circulatory system caused nearly as many deaths (0·34) as the quinquennial average (0·35), but led to less invaliding (1·78 compared with 2·69 per 1000); this indicates that heart-strain is now not a common accompaniment of the physical training of the soldier.

Venereal diseases caused 31·8 per cent. of the total inefficiency through sickness. The greatest proportion of admissions occurred, as always, in the London District, 137 per 1000; in the Western District there were only 44 per 1000. Sore throat and tonsillitis were much less prevalent during 1910 than of late years, the admission ratio having been only 26·3, as compared with a quinquennial average of 44·4 per 1000. Admissions were most numerous in the London District, as usual. None of the specific infectious diseases were prevalent in 1910, except influenza to a slight extent, causing 13·2 admissions per 1000, but it was not of a severe type. This section of the report concludes with the observation that the figures of sickness, mortality, and invaliding are now so low that any very considerable reduction in the future can hardly be anticipated.

Vaccination.

Out of the total 32,179 recruits found on inspection fit for service, 56·8 per 1000 had neither marks of vaccination nor of small-pox. The proportion of unprotected persons is increasing year by year. In the five years, 1891–95, it averaged 27·7, in 1896–1900 it was 34, in 1901–05 it was 39·3; in the last five years the ratios have risen rapidly from 35·9 in 1906 to 50·6 in 1909, and 56·8 in the past year. No danger accrues to the army because every recruit that needs it is either vaccinated or revaccinated; but if these figures are to be taken as generally applicable to the young adult male population they indicate that a large amount of inflammable material is accumulating throughout the country.

Sanitation.

Instruction in sanitation is now being carried out by lectures and demonstrations in all commands; the sanitary officers give lectures at the largest stations, and regimental officers instruct their men in elementary sanitation and personal hygiene; in the Territorial Force also series of lectures and practical demonstrations have been given at many centres. At the Aldershot School of Army Sanitation 858 officers and men passed through during the year, a considerable increase on any previous year's work. At the staff college also lectures are given by a specially appointed medical officer on the rôle of the medical service in war, the gain to efficiency from sanitation and disease-prevention being specially emphasised. There can be no doubt that a general knowledge of sanitary principles and an appreciation of the importance of such matters from a military point of view are becoming diffused throughout the army; in the Southern Command, where the greatest number of troops were collected together in camps, the Principal Medical Officer reported that the spread of knowledge and the combined efforts of all ranks had resulted in the maintenance of a high standard of sanitation in the various camps and barracks. This spread of knowledge and cordial coöperation have been an important factor in the production of a standard of health throughout the army that has never been previously reached.

Experimental work has been carried on at the Army Medical College and the Aldershot School of Sanitation in connexion with the supply of water to troops in the field; a clarifying drum has been under trial, with the use of alum as a preliminary both to the Griffith system of purification by heat, and to the filtration of the regulation water-cart; it has been found that 80 to 90 per cent. of contained micro-organisms can be removed in this way, thereby largely increasing the efficiency of the subsequent process. A new steam disinfector has been designed by the officer in charge of the Aldershot school; while at the Army Medical College a good deal of work has been done in relation to the food

requirements of soldiers, a second experimental march having been carried out during the year under the direction of the professor of hygiene.

Infectious Diseases.

The reduction in the incidence of infectious disease has continued, all the principal headings showing a smaller number of admissions. There have been only 43 cases of enteric fever, and measles, scarlet fever, and influenza have prevailed but slightly; for diphtheria there have been 57 admissions—nearly the same as in 1909. The only deaths in this group have been 4 from enteric fever and 1 from influenza. Under this last-named heading are recorded 1432 admissions. It is perhaps doubtful whether all were due to the specific micro-organism. Enteric fever caused only 43 admissions, giving a ratio of 0·4 per 1000, compared with a ratio of 0·6 for the preceding quinquennium. Most cases were sporadic; 6 occurred in the Belfast district, of which 3 were considered to have been infected at McGilligan Camp, where a possible chronic carrier was detected. Tonsillitis and sore-throat showed a great reduction; there were 26·3 admissions per 1000, compared with 44·4 in the preceding quinquennium. The progressive improvement in venereal sickness continues most satisfactorily; the admissions were 65·5 per 1000, compared with the quinquennial average of 76; and the constant inefficiency was 6·48 instead of 7·10. The reduction does not appear to be very considerable at first sight, but it may be recalled that for the decennium 1891–1900 the admission ratio was 143·7, and for the five years 1886–1890 it was 207·6; therefore the admissions are less than one-third of what they were 20 years ago. This must be considered to be most satisfactory.

Structural Improvements.

Structural improvements are constantly in progress in barracks, quarters, and hospitals, but no work of any magnitude has been completed during the year; the new cavalry barracks at Redford, near Edinburgh, are in progress, and new infantry barracks will shortly be commenced. The new block at Victoria Barracks, Windsor, is practically completed. The old Royal Artillery barracks at Woolwich are to be reconstructed, a work, we should think, already long overdue. Some years ago it was decided to provide pedestal flush down closets for troops instead of the old-fashioned trough latrines; it was feared that these new closets would suffer from rough usage and want of care or intelligence on the part of the men. It is satisfactory to learn that such has not been the case; this indicates a general improvement in the character and intelligence of the private soldier, which is indeed abundantly evident in many other ways, and is a hopeful sign of the times.

The Mediterranean Area.

The stations in the Mediterranean Command are Gibraltar, Malta, Cyprus, and Egypt. No troops appear to have been quartered in Crete during 1910.

At *Gibraltar* the strength of the garrison was 3652, the admissions to hospital were 402·2 per 1000, the number constantly sick 31·45, and the death-rate 3·29; the death-rate was lower, but admissions and constantly sick rather higher than the quinquennial average. The increase in sickness has been due to minor ailments, chiefly venereal disease. There were 12 admissions for enteric fever, which of late has not been much in evidence; the cases occurred sporadically during the hot weather, and no cause could be traced, though unwashed vegetables and fruit and ice-creams were suspected. In eight of the cases pure cultures of B. typhosus were recovered from the blood early in the disease, leading to an early diagnosis and the speedy adoption of preventive measures. Two cases of Mediterranean fever occurred in January, the last of the outbreak due to goats' milk of the year before. The increase in venereal disease over the preceding year, 434 admissions compared with 304, was possibly connected with the presence of foreign warships. A mild outbreak of food poisoning occurred in November, ascribed to tinned salmon. Of 63 men who partook of the salmon made up into rissoles for breakfast, 40 were affected about noon, and of these 23 were admitted to hospital with vomiting, diarrhœa, colic, and slight collapse; these symptoms and the mode of onset point to a toxin rather than a bacterial infection. No tins of salmon of the same kind were found to be at all amiss, and the cooks noted nothing wrong in the tins that had been used. The incident is of interest, because the use of tinned salmon is universal, and the occurrence of illness after eating it in good condition almost unknown. It is probable, therefore, that some damaged condition was overlooked. Improvements have been carried out in barracks by the provision of wash-down "latrines" (? closets) in place of trough latrines, and the Horsfall destructors have worked well.

In *Malta*, where the strength averaged 6769, the troops have had a slightly higher admission rate than in the previous year; but the number of men constantly sick has been almost exactly the same, and the death-rate and invaliding show a marked improvement. When the figures are compared with those for the preceding quinquennium the improvement is seen to be still more satisfactory, the admissions having been 400·1, compared with 489·2; the constantly sick 24·44, compared with 32·36; and the deaths 2·81, compared with 4·26 per 1000. The invalids sent home have numbered only 8·42 per 1000, in marked contrast with 30·26 for 1905–09, the latter high figure depending chiefly on the Mediterranean fever prevalence of 1905 and 1906. In 1909 there was one admission for this disease; in 1910 not a single case occurred, except in the person of a young officer who had just arrived, and who drank milk unboiled, probably that of the goat. *En revanche* there were 47 cases of enteric fever amongst the troops, a much greater prevalence than in any year since 1905. Nearly all these cases occurred in January and February, in the form of a sharp outbreak, amounting in all to 61 attacks, distributed between officers, women, and children, as well as among the troops, and causing six deaths. No information is given as to locality of the epidemic, nor as to its circumstances, except that it was due to the water-supply, which was the same as that supplied to the civil population; as to this it is said that alterations "are under consideration" with a view to its protection. Paratyphoid fever caused seven admissions, all from the same barracks, and said to have been due to eating grapes. Under general diseases in Group C appears a new heading, Sandfly Fever, the fever due to an invisible virus disseminated by Phlebotomus pappatasii; 124 admissions are recorded; for comparison with previous years this entry must be combined with pyrexia of uncertain origin, for which there were 26 admissions; this total of 150 cases, giving a ratio of 22·1 per 1000, is less than half the prevalence in 1909, and little more than a quarter of that for the quinquennium (79·1). Although the affection is not serious, during that period it ranked third in causing inefficiency through sickness. Formaldehyde spray has been found useful in keeping down the sand-flies, a nuisance for which some parts of Malta have been notorious. A case of kala-azar is recorded, the first known to have become infected in Malta. We are glad to learn that the old Valetta Hospital has been converted into a reception station, that a new isolation hospital has been completed on the top of the ramparts at Cottonera, and that the building of a new hospital in a healthy and airy situation at Imtarfa is under consideration; also that new barracks are under construction at Tigne, which will reduce the number of men living in casemates. Last year we ventured to predict that now that "Malta fever" has been abolished in fact and in name, and that sanitation has improved so greatly, the island would regain most of its old popularity as a winter resort. From the health returns of 1910, however, when enteric fever is said to have been caused by pollution of the public drinking water-supply, we fear this opinion was too optimistic. It is to be hoped that the public health authority has already taken steps to safeguard the catchment area.

Egypt.—The average strength was 5592. The admissions were 551·3 per 1000, the constantly sick 36·82, and the death-rate 4·65, all these ratios being lower than for the preceding year except the last, which showed a fractional increase. All ratios, however, were lower than those for the preceding quinquennium. There were 12 cases of enteric fever, all sporadic, and occurring at wide intervals of time. No cause is assigned. There were 115 admissions for sandfly fever. Venereal diseases declined from 168 per 1000 admissions in the quinquennium to 128 per 1000 in 1910. The use of saponified cresol for latrines and urinals has given every satisfaction as a fly deterrent. This is thought to have caused much of the decline in enteric fever.

South Africa.

The force in South Africa, which had been largely reduced in 1909, was still further diminished in 1910 to a strength of 10,871. The health of the troops on the whole has slightly

improved, though the total admission ratio of 386·7 is rather higher than that of the preceding year, on account of an outbreak of scabies, causing 549 admissions. There were 30 admissions for enteric fever, giving a ratio of 2·8 per 1000, and a constantly sick ratio of 0·46, both being great improvements on 9·9 and 1·91, the corresponding quenquennial ratios. The largest number of cases at any one station occurred at Roberts' Heights, Pretoria, where there were 17 cases; but it is mentioned that only 7 could be demonstrated to be due to B. typhosus; 8 were due to atypical forms of the typho-colon group. No source of infection was traced. Admissions for malaria (23·9 per 1000) were double the quinquennial average, due to recurrent cases in units arrived from India; there were no fresh infections. An outbreak of scabies occurred, causing 549 admissions, or a ratio of 50·5 per 1000. Nearly all were from one regiment, transferred from Rangoon, the disease having rapidly spread under the conditions of life on board ship. An occasional outbreak of scabies or scurvy is useful as an antidote to a too optimistic view of ourselves or our environment. "Influenza" caused 126 admissions, a great increase over the previous year; 44 occurred at Potchefstroom, and are reported to have resembled sandfly fever, but "no sandflies exist in the neighbourhood." Most of the men had served in India, and a malarial origin was suspected, but no malarial parasites were found. At Pietermaritzburg most of the cases of influenza showed a scarlet fever rash. No sanitary measures of any great importance were undertaken in the Union, owing to uncertainty as to the future distribution of the troops.

India.

The thoughts of most of us during the last week or two have been turned to our Eastern Empire, and on reading graphic descriptions of oriental splendour and magnificent ceremonial, picturesque crowds, the magnificent appearance of the troops, Indian no less than British, the enthusiasm of everyone while one pageant succeeds another day after day in brilliant sunshine, many of us have been inclined to envy our fellow-countrymen dwelling in that pleasant land, far away from London fogs, where December, so far from being "drear-nighted," as it appeared to John Keats, affords perhaps the most brilliant and perfect climate imaginable. The weather conditions are, of course, not equally delightful all the year round; the sun is too powerful during some months of the year, and when it rains for three days without a break there is monotony as well as excess of moisture in the dwelling. The formerly prevailing idea of the "deadly climate" of such and such a place in the tropics is, however, now pretty well exploded. No climate is deadly; no climate is even unhealthy, if by climate we understand the conditions of weather, temperature, barometric conditions, rainfall, and so on. The diseases that were formerly called "climatic" are now known (in almost every case) to be due to some specific living cause, the development and activity of which may depend on climatic conditions, and therefore be greater in one climate than another; but the specific causes are not necessarily present even in the hottest climate, and even if they are present they can be destroyed by taking appropriate action.

The average strength of the European force serving in India was 72,491, a slight increase over that of the previous year. The health statistics, which in 1909 showed a marked advance on all previous returns, have in this last year again improved most noticeably. The admissions were 576·5, the constantly sick 31·93, and the deaths 4·66 per 1000, the corresponding figures for 1905–09 having been 802·5, 47·26, and 9·08. The invaliding ratio has come down to 7·75 per 1000, that for the preceding quinquennium having been 19·92. The marked improvement to which attention was drawn in the report for the previous year has been more than maintained in 1910. European troops now serving in India can enjoy a degree of good health undreamt of a generation ago.

The cause of the greatest number of admissions to hospital has been malaria (132 per 1000 strength), with which may be coupled sandfly fever (7·1), and pyrexia of uncertain origin (37·7). Venereal diseases caused 58·9, and the group of digestive diseases caused 52·5 admissions per 1000. In each instance the number of cases of illness has been less than the quinquennial average. The greatest inefficiency through sickness was due to the group of venereal diseases, for which 7·79 per 1000 were constantly sick in hospital; for fevers the inefficiency was 5·64, and for digestive diseases 2·56 per 1000. The diseases that were most fatal were enteric fever (causing 0·62 deaths per 1000), inflammation of the liver (0·52), diseases of the heart and aneurysm (0·44), tubercle (0·29), pneumonia (0·25), and dysentery (0·25). In each instance, both of inefficiency through sickness and of mortality ratio, there has been a marked reduction, except in the case of death-rate from tubercle, which remains practically the same as for the five-year average.

There remains to be mentioned enteric fever. In the preceding quinquennium, 1905 to 1909, the admissions averaged 13·7 per 1000, the numbers constantly sick 2·79, and the deaths 2·66; and in the decennium 1895–1904 the admissions averaged 22·3, the constantly sick 3·31, and the deaths 5·62. In the year 1910 the admissions were 4·1 per 1000, the number constantly sick 0·91, and the death-rate 0·62 per 1000. This is a result that ten years ago could hardly have been hoped for, still less expected. The report states that there have been no definite outbreaks of true enteric fever during the year, though isolated cases have occurred, scattered over a large number of stations. The 2nd Worcestershire Regiment at Jhansi had 21 cases, with 6 deaths; this was the largest number of cases in any one unit during the year. At Sialkot the admission ratio for enteric fever was 15·1 per 1000, at Kamptee 14·4, at Fyzabad 14·2, at Jhansi 13·1, and at Kirkee 12·0. No other station had an enteric incidence running into double figures. During 1910 an attempt has been made to differentiate paratyphoid fever from true enteric, though in the statistical returns both are included under the latter designation. Of the total 335 cases returned as enteric, 39 were definitely diagnosed, with undoubted isolation of B. paratyphosus A or B, as paratyphoid fever; 36 of these were cases of infection by the A bacillus; one case was fatal. A noticeable feature of the epidemic history of typhoid fever during the year has been the absence of any direct evidence to show that drinking water, milk, or indeed any article of food had been the cause of the disease. There had been much to suggest dissemination by carriers, especially undetected cases, but, on the other hand, there has been a remarkable freedom from attack amongst attendants on the sick. Inoculation has been carried out extensively during the year. On Dec. 31st, 1910, a census was taken and 81·7 per cent. of British troops were found to have been inoculated. The enteric fever convalescent depôts at Naini Tal and Wellington have done excellent work; 239 men were received at the former, where 6 chronic carriers were detected, and 81 at the latter, with detection of 3 carriers. It is hoped that before long accommodation will be afforded at these depôts for officers, women, and children.

Malaria, with 132 per 1000 admissions, was much less prevalent than in 1909 (when they numbered 202·8). The report does not pronounce definitely what was the cause of the improvement, but inclines to the view that it was the result of a lessened heritage of infection from the previous year, of the vigorous anti-malarial measures that had been taken in cantonments, and of the prophylactic administration of quinine. This last measure has been carried out systematically, but the injection of quinine salts, either subcutaneous or intramuscular, has been abandoned. Unfortunately a death occurred from tetanus following on subcutaneous injection. The use of mosquito nets by the troops is increasing. We share the regret expressed that owing to financial considerations the authorities have not seen their way to provide them at the expense of the State. As the value of this simple measure of fever prevention has been fully demonstrated, we consider that both on general grounds and on grounds of true financial economy the troops should be provided with mosquito nets at malarious stations, and made to use them. Sandfly fever caused 512 admissions, with no deaths; it prevailed at Nowshera, Attock, and Multan. Venereal disease has decreased generally; it still prevails much more extensively at Secunderabad, Poona, and Lucknow, and in Burma than elsewhere.

With regard to sanitary matters, we are glad to learn that a new type of incinerator has been evolved which is much superior in efficiency to any hitherto in use, and that the disposal of urine in absorption pits near urinals is likely to be carried out with success. The establishment of sanitary sections—that is, bodies of sanitary police to carry out water purification, disinfection, &c.—has been sanctioned by Government, and should be a valuable measure of disease prevention.

The report on the Health of British Troops in India, contained in the Blue-book on the Health of the Army in 1910, is indeed an astonishing record of improvement. The betterment in health has taken place all round—there is less malarial fever, less venereal disease, less liver disease. But the most striking feature has been the reduction in enteric fever. In former times we have often noted the occurrence of severe outbreaks of this disease, which in one year (1898) was more fatal than all other causes taken together. It is even now more fatal than any other single disease, but both in its prevalence and in its severity it has been to a great extent robbed of its terrors. It is not now the dread of the young soldier or officer going out to India at the commencement of his military career, as was the case some years ago. This result has been attained by the exercise of much labour and skill on the part of our colleagues in the medical service of the army, supported by an enlightened appreciation by the Indian Government, which has backed up their efforts and accepted their recommendations in regard to sanitary reform. The recent establishment of convalescent depôts for enteric patients, and consequent isolation of possible carrier cases, has no doubt largely influenced the reduction in enteric prevalence. Prevention has been demonstrated to be better and cheaper than cure, and the recognition of this fact by the Government, and the energetic carrying out of the principle all over the country, have reduced the sickness to little more than one-third, and the mortality to even less than one-third, of what it was 15 to 20 years ago.

Smaller Stations.

Bermuda and Jamaica form the Atlantic sub-group. At the former station there has been some increase in sickness as compared with 1909, due apparently to the arrival of a fresh regiment. There has also been an increase in the death-rate over that of the quinquennium. In Jamaica there has been a decided improvement. Malaria was not so prevalent as in the previous year, though many cases again occurred during gun practice in the malarial neighbourhood of Fort Nugent in November; this is stated to have been a necessity. In West Africa the troops had to undergo a "bad fever year." The admissions for malaria were 1032 per 1000, compared with a quinquennial ratio of 628, but no cases were fatal. A death occurred from yellow fever, which is endemic at Freetown. Malaria unfortunately broke out at Tower Hill Barracks, which have hitherto been considered to be free from infection. Tins and bottles had been allowed to be dumped on War Department land in the immediate neighbourhood of the barracks. Many were found to contain mosquito larvæ. These cases of fever were clearly preventable and were not prevented. In Mauritius, where the health of the troops was on the whole satisfactory, 15 cases of enteric fever were admitted, 3 of which appeared to have contracted [infection from a cook, whose blood agglutinated with B. typhosus in a 1 in 50 dilution. In South China there was a considerable increase in the admissions for malaria at Hong-Kong, partly owing to the proximity of a nullah teeming with anopheline larvæ, and partly to an infected Chinese village. Both in North China and in the Straits Settlements the health of the troops showed an improvement over the statistics of previous years.

This report is admirably compiled, and contains a large amount of information interesting to all engaged in public health matters, as well as to those members of the profession who are in one way or another connected with the services of the Crown.

BEQUESTS TO BIRMINGHAM CHARITIES.—Several Birmingham institutions benefit under the will of the late Mr. John Roderick, a well-known auctioneer and surveyor—viz., the General Hospital £50,000, the Queen's Hospital £10,000, the Birmingham General Dispensary £1000, and the Skin and Urinary Hospital £1000. After the payment of sundry other legacies amounting to £70,900 the residue of the estate, which is estimated at £362,022, is left, as to half to the General Hospital, as to a quarter to the Queen's Hospital, and as to a quarter to the Birmingham General Dispensary. Mr. Roderick, who was in his eighty-first year, had been for many years a member of the board of management of the General Hospital; three beds in the hospital have been endowed at various times in memory of brothers of Mr. Roderick.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

A MEETING of the Governors and General Council of King Edward's Hospital Fund for London, for the purpose of awarding grants to the hospitals, convalescent homes, and consumption sanatoriums, was held on Dec. 11th at St. James's Palace. The Speaker of the House of Commons, the Right Honourable JAMES LOWTHER, was in the chair, and those present included the Duke of Norfolk, Lord Revelstoke, the President of the Metropolitan Hospital Sunday Fund (the Right Hon. the Lord Mayor), the President of the Hospital Saturday Fund, the Governor of the Bank of England (Mr. A. C. Cole), the President of the Royal College of Surgeons of England (Mr. R. J. Godlee), Sir W. S. Church, Sir Henry Burdett, Sir Horace Marshall, Sir Cooper Perry, Sir John Craggs, Dr. Edwin Freshfield, Sir T. Vezey Strong, Sir Joseph Dimsdale, Mr. Albert G. Sandeman, Mr. John G. Griffiths, and Sir Savile Crossley and Mr. Frederick M. Fry (honorary secretaries of the Fund).

In the absence of Lord Rothschild (honorary treasurer) Lord REVELSTOKE reported that the amount received by the Fund for general purposes to Dec. 8th, after payment of expenses, was £176,745 0*s.* 3*d.*

Sir HENRY BURDETT stated that the League of Mercy hoped this year that their contribution to the Fund and their distribution amongst the hospitals in the home counties would amount together to a sum of £20,000. He could not for the moment say exactly what sum.

The Chairman of the Distribution Committee (Sir WILLIAM CHURCH) read the report of that committee, which showed that the sum of £151,000 was in the hands of the committee with a view to distribution amongst the London hospitals, as against £150,000 in 1910. The committee reported that the number of hospitals applying for grants was 105, as against 106 last year. They add: "Among the institutions which do not appear in this year's list is St. George's Hospital, the governors of the hospital having withdrawn their application as a result of the decision of the Fund on the question of the amounts which could properly be paid to the medical school in respect of work done for the hospital. The grant of £2000 which was reserved last year lapses, the conditions attached to it by the council of the Fund not having been fulfilled." With regard to the applications received during the year from four out of the five throat, nose, and ear hospitals no detailed scheme of amalgamation had yet reached the stage at which a grant from the Fund could be recommended. Under the circumstances the committee advised that the total sums set aside or promised towards a general scheme of amalgamation should be increased to £20,000, and should remain at that figure pending an agreement upon a satisfactory scheme or schemes. The committee recommended that they should be empowered to draw upon this sum, in appropriate proportions, in the event of a general or partial amalgamation being brought to a satisfactory conclusion before the next distribution. The committee reported with satisfaction that the poor district of Kentish Town would shortly be provided with improved hospital accommodation by the rebuilding of the out-patient department of the amalgamated Hampstead and North-West London Hospitals. The sum of £5000 voted towards the removal of King's College Hospital to South London increased the total amount contributed by the Fund to this object to £42,000. The enlargement of the annual statistical report to cover practically all the hospitals applying for grants enabled the committee to extend the practice of drawing the attention of the hospitals concerned to cases where the excess of cost above the average seemed to call either for specific justification or for greater attention to economy.

Sir Savile Crossley then presented the list of awards, premising that the absence of a grant did not imply dissatisfaction with an institution. The following are among the chief awards:—

Belgrave Hospital, £1500 (£1000 to reduce building debt); Bolingbroke Hospital, £1400; Central London Ophthalmic Hospital, £1500 (to rebuilding in accordance with the scheme submitted to the Fund); Charing Cross Hospital, £4000 (£1000 to special appeal for reduction of debt); City of London Hospital for Diseases of the Chest, Victoria Park, £4000; City of London Lying-in Hospital, £1000 (£500 to reduce building debt); Dreadnought Hospital, £4500 (£500 to reduce debt, and £500 to underpinning of Docks Branch); East London Hospital for

Children, £2000 (£500 to recent improvements in accordance with the scheme submitted to the Fund); Great Northern Central Hospital, £4000 (£1000 to reduce debt); Guy's Hospital, £6,500; Hampstead General Hospital, £4500 (£1650 on account of maintenance and rent, as agreed upon amalgamation with the North-West London Hospital, and £2750 to rebuilding the out-patient department in Kentish Town in accordance with scheme submitted to the Fund, on condition that the balance is raised by the hospital); Hospital for Consumption, Brompton (including Sanatorium at Frimley), £4000; Hospital for Epilepsy and Paralysis, £1500 (£1000 to extension in accordance with the scheme submitted to the Fund); Hospital for Sick Children, £3500 (£500 to reduce general fund debt); Hospital for Women, Soho-square, £1750 (£500 to reduction of mortgage on No. 4, Frith-street); King's College Hospital, £7000 (£5000 to removal fund); London Hospital, £12,000; London Lock Hospital £4500 (£500 to the Harrow-road Hospital, and £4000 to the rebuilding of Dean-street Hospital in accordance with the scheme submitted to the Fund); London Temperance Hospital, £1500; Metropolitan Hospital, £3500; Middlesex Hospital, £4000; Miller General Hospital for South-East London, £2750 (£2000 to extension in accordance with the scheme submitted to the Fund); Mount Vernon Hospital for Consumption (including Sanatorium at Northwood), £2500; National Hospital for the Paralysed and Epileptic, £1750; New Hospital for Women, £1500 (£750 to structural improvements in accordance with the scheme submitted to the Fund); Paddington Green Children's Hospital, £1250 (£750 to reconstruction of Out patient Department in accordance with the scheme submitted to the Fund); Prince of Wales's General Hospital, £4000 (£1500 to reduce debt; the committee consider that this hospital should receive more support from the public); Queen's Hospital for Children, £3500 (£1500 to reduce debt); Royal Eye Hospital, £1000 (£250 to reduce debt); Royal Free Hospital, £3000; Royal Hospital for Diseases of the Chest, City-road, £1500 (£250 to reduce debt); Royal London Ophthalmic Hospital, £2250; Royal National Orthopædic Hospital, £5000 (£3000 to reduce building debt); Royal Waterloo Hospital for Children and Women, £1750 (£250 to recent improvements); St. Mary's Hospital, £5500 (£1500 to reconstruction of casualty department in accordance with the scheme submitted to the Fund); St. Mary's Hospital for Women and Children, Plaistow, £1000 (£250 to roof garden for patients); Samaritan Free Hospital, £1750 (£750 to new nurses' home in accordance with the scheme submitted to the Fund); South Wimbledon, Merton, and District Cottage Hospital, £1000 (to the rebuilding of the hospital in accordance with the scheme submitted to the Fund); University College Hospital, £4000; Victoria Hospital for Children, £1250 (£250 to recent improvements); West Ham and East London Hospital, £2000; West London Hospital, £5000 (£2000 to reduce debt); Westminster Hospital, £3500.

The report of the Convalescent Homes Committee was read by Dr. FRESHFIELD, in the absence of the chairman, Mr. William Latham, K.C. It announced that the committee had received the sum of £6500 for distribution amongst convalescent homes and consumption sanatoriums. The amount distributed in 1910 was £5000. The committee adhered to their original policy of giving special consideration to the convalescent homes closely connected with London hospitals, and reported with satisfaction that the scheme for placing beds in country consumptive sanatoriums at the disposal of patients in London hospitals had proved satisfactory. The grants recommended for consumption sanatoriums amounted to £3500; those for convalescent homes to £3000. The awards were presented by Mr. Frederick M. Fry (honorary secretary).

The SPEAKER of the House of Commons, before moving the adoption of the reports and awards, read the following communication from the King:—

Emperor's Camp, India, 9th December, 1911, 2.45 P.M.

On the occasion of the Annual Meeting on Monday I wish to congratulate the Governors and Council of the Fund upon the satisfactory results achieved last year. I am glad to think that they can increase the annual distribution by £2500, indicating the continued support of the public and confidence in its efficient administration. I highly appreciate the generous and untiring work given to the Fund by the honorary secretaries and members of the various committees; and I take as ever the deepest interest in its welfare. GEORGE, R.I.

After expressing on behalf of those present deep appreciation of His Majesty's kind message he said the total this year for distribution was £157,500, representing an increase of £2500—£1000 in the amount distributed to hospitals and £1500 in the amount distributed to convalescent homes and consumption sanatoriums. Among the receipts which had made possible this progress he mentioned first the increased annual subscription of 100 guineas with which Her Majesty the Queen had honoured the Fund. This, following upon the increase last year of His Majesty's subscription from £500 to £1000 and the subscription of £100 from H.R.H. the Prince of Wales, was yet another mark of the interest taken by the Royal Family in the Fund, and their recognition of the needs of the hospitals of London. His Majesty had also allocated to the Fund a share amounting to £2000, in the munificent Coronation gift of His Highness the Maharaja of Gwalior. The receipts again included an anonymous donation of £10,000, and the City Corporation had for the third time in succession voted an annual subscription of £500 for five years. The contribution of the League of Mercy continued to be one of the largest items in the list of receipts. He regretted the withdrawal of St. George's Hospital from the list of applicants, but the Fund was bound by the findings of Sir Edward Fry's Commission on the Financial Relations between Hospitals and Medical Schools. The scheme of the Convalescent Homes Committee for placing beds in consumption sanatoriums at the disposal of London hospitals had been very successful, and the result of the circular issued to the principal hospitals inviting expressions of opinion as to the probable effect of the National Insurance Bill upon their finances and the numbers of their patients had been published in the form of a short summary of opinions.

The Duke of NORFOLK seconded the motion, and the adoption of the reports was carried unanimously.

The CHAIRMAN then announced the intentions of the Governors to re-appoint for the year 1912 the whole of the existing members both of the council and of the committees.

On the motion of Sir HENRY BURDETT, seconded by Sir SAVILE CROSSLEY, a resolution was passed expressing the thanks of the council to Mr. Fry for his services as honorary secretary.

The LORD MAYOR proposed a vote of thanks to the Speaker of the House of Commons for presiding. The resolution was seconded by Mr. COLE and carried unanimously.

The SPEAKER having briefly acknowledged the vote of thanks, the proceedings then terminated.

ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD.

III.

WE now proceed to notice the remainder of Dr. Newsholme's report, which deals with the work of the Board's medical department and also with certain special matters that have engaged the attention of the staff in the course of the year.[1]

Medical Inspections.

A considerable portion of the time of the medical staff is occupied in the inspection and regulation of vaccination, at least 13 of their number having been thus engaged during the year. But arrangements are in force for the performance of other preventive functions by the inspectors during their routine visits on vaccination duty. For example, the inspectors have instructions to make inquiries, and where necessary to give advice to local authorities and their officers as to sanitary circumstances generally, and especially as to the condition of dwelling-houses and of existing systems of refuse disposal. They also inform themselves as to local methods of dealing, by hospital isolation or otherwise, with tuberculous phthisis and other infectious diseases, and further as to local arrangements for the control of water- and milk-supplies.

Protection of Food-supply.

The food inspectors regularly supervise the local arrangements for the protection of the food-supply in port sanitary districts, and they occasionally hold inquiries respecting the administration of the Adulteration Acts, with especial reference to the efficiency of the measures locally taken to secure the wholesomeness and purity of food. Since the issue of the Board's regulations in 1907 the general improvement in the condition of the foods arriving at our ports has been maintained, and steps have been taken to inquire locally as to compliance with the Board's instructions relating to foreign meat. As the result of inspectorial visits to Belgium and Holland, it is reported that the measures there adopted by the authorities to comply with our requirements are satisfactory in every respect.

Several outbreaks of food poisoning were reported during the year. Dr. A. W. J. MacFadden, who has charge of this department, gives particulars of such occurrences at St. Helens, Carlisle, Gateshead, and elsewhere. He complains, however, that in the majority of cases the information was not received until so long after the occurrence of the mischief that the opportunity of effectively assisting local preventive measures had passed.

[1] Previous notices of this report appeared in THE LANCET of Nov. 25th, p. 1501, and Dec. 9th, p. 1649.

New Pathological Laboratory.

The Local Government Board is now equipped with a permanent pathological laboratory. The staff includes, in addition to the laboratory assistants, the director, Dr. A. Eastwood and Dr. F. Griffith, both of which officers had been engaged for several years on investigations for the Royal Commission on Tuberculosis. The laboratory was in full working order by the end of December, 1910, but hitherto the investigations undertaken have in the main been limited to tuberculosis. There is every reason to hope that under the direction of Dr. Eastwood and his colleague the newly equipped pathological laboratory will greatly increase the efficiency of the Board's medical department.

Government Lymph Establishment.

In the course of the 12 months ended in March last nearly half a million capillary tubes of glycerinated calf lymph were issued by the vaccine establishment to public vaccinators, and further, 26,000 tubes of lymph were issued to the navy, and 56,000 to the army, during the same period.

Extraneous Duties of Medical Staff.

In the course of the comments already made respecting the public health of 1910 we have alluded to much of the work of the Board's medical department, but the account of that work would be incomplete were omission made of the manifold duties for which the services of individual members of the staff have been requisitioned by other departments of the State. For example, the principal medical officer has served as a member of the General Medical Council, and in that capacity has taken part in revising the regulations for diplomas in public health. He has advised on public health questions referred to him by the Foreign Office and the Colonial Office, affecting this country's colonies and dependencies, and finally he has been consulted from time to time by the Privy Council Office and the Post Office on matters bearing on health questions. Dr. H. Franklin Parsons represented the Board at the meetings of the Committee of Advice on the Geological Survey. For several years past he has been engaged on an inquiry respecting hospital construction, and although he has retired from office arrangements have been made with him for the completion of that work. Dr. R. Bruce Low continued to serve on the Committee of the Advisory Board of the Army Medical Service. Dr. Theodore Thomson continued to act as representative of H.M. Government on the Committee of the International Office of Public Health. He has also continued to serve as a member of the Advisory Medical and Sanitary Committee for Tropical Africa appointed by the Secretary of State for the Colonies. Dr. G. S. Buchanan, assistant medical officer and chief inspector of foods to the Board, has made some inquiries under the Midwives Act, which have been utilised in the section of the present report dealing with puerperal sepsis. Dr. L. W. Darra Mair has acted as chairman of the Departmental Committee on Sanitary Matters, and Dr. R. Farrar has visited China as the representative of H.M. Government on the International Commission of medical experts to investigate the plague in Manchuria.

Tenure of Office by Medical Officers of Health.

Among special subjects dealt with in the report we note that the conditions of appointment (including their tenure of office) of medical officers of health have been in some respects improved by the issue of a new Order of the Local Government Board. Power is now given for the appointment by any sanitary authority of a medical officer of health *without limit of time*. In such cases the officer cannot be dismissed without consent of the central authority. Another section of the Order provides that an officer appointed for a specified time will after the expiration of that time continue to hold office indefinitely, *but he is still subject to three months' notice*, and no further approval by the Local Government Board is necessary. Dr. Newsholme predicts that inasmuch as the practice of annual reappointments will, by virtue of this clause, almost entirely cease, the medical officers will be able to perform their duties without the impending fear that they may not secure a majority of votes of the local council when reappointment becomes due. Whether or not this prediction is well founded future events must determine. We ourselves are strongly averse to the granting of uncontrolled powers of dismissal to a local authority, except in the rare instances in which there is practically no danger of abuse.

County Medical Officers of Health.

A General Order has recently been issued prescribing the duties of county medical officers of health. Briefly put, they include all the duties already devolving upon district medical officers of health, together with some others of a supervisory character. In particular, the county medical officer is required to inform himself of all influences affecting the public health in every part of the county, to consult with the district medical officers, and to present an annual report. This Order, by securing due supervision of local sanitary work by the county medical officer, will give additional guarantee of its accomplishment without fear or favour; and the reports of these officers will, it is hoped, give year by year a fairly complete conspectus of the health and sanitary condition of every administrative county. County medical officers are now generally debarred from private practice, and enjoy a fair measure of independence.

Improvement of Vital Statistics.

As a result of conference between the Board's medical officer and the Registrar-General, certain far-reaching improvements will shortly be made in the collection and presentation of statistics of sickness and mortality by which the returns of the local health officer will be coördinated with those of the General Register Office. New skeleton tables for the use of medical officers of health have already been distributed by the Board and will be used in the compilation of their reports for the year 1911 onwards. Under a new regulation the Board requires from every medical officer of health a weekly statement of the cases of infectious disease notified in his district. In return for this each contributing medical officer receives from the Board a summary of the returns of all the sanitary districts in England and Wales. By the help of these returns medical officers of health everywhere receive prompt and important warning respecting the danger of importation of infection from other districts, whilst the return to the central office enables a closer watch than heretofore to be kept of the prevalence of such diseases and the general health conditions of the country.

Auxiliary Scientific Investigations.

For several years past the Local Government Board has received a Parliamentary grant in aid of scientific investigations, and with the help of this useful work has been accomplished during the year under review. We may refer, as of special importance, to the work on the etiology of epidemic diarrhœa, conducted independently, but on similar lines, by Dr. C. J. Lewis, Dr. Sheila Ross, Dr. R. A. O'Brien, and Dr. J. Ott. An investigation into the possible conveyance of infection by flies has been carried out under the supervision of Dr. Monckton Copeman, in coöperation with Professor G. H. F. Nuttall, of Cambridge, and an account of a laborious investigation into the bacterial contents of the air of sewers and drains has been contributed by Dr. F. W. Andrewes. We have already noticed the special study of Dr. A. C. Inman on secondary infection in tuberculosis, a brief account of which appears in an appendix to the present report.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

AN ordinary meeting of the Council was held on Dec. 14th, Mr. RICKMAN J. GODLEE, the President, being in the chair.

A report was read from the Board of Examiners in Anatomy and Physiology for the Fellowship stating that at the examination recently concluded 127 candidates were examined, and that 32 were approved and 95 rejected.

A report was read from the Court of Examiners, and in accordance therewith it was resolved to issue Diplomas of the Fellowship to 30 successful candidates.

In accordance with a report from the Board of Examiners in Dental Surgery, it was resolved to issue Diplomas in Dental Surgery to 44 successful candidates.

The PRESIDENT reported the delivery of the Bradshaw lecture on Some Points in Heredity by Mr. R. Clement Lucas (see p. 1755 of our present issue). The best thanks of the Council were given to Mr. Lucas for his lecture, and he was requested to publish it.

Mr. C. B. Lockwood was elected a member of the Museum Committee in the vacancy occasioned by Mr. Gollee, the President having become an *ex-officio* member of the committee.

Mr. Edmund Owen was re-elected a member of the Court of the University of Liverpool for a period of three years.

A report from the committee on the annual report of the Council was considered, and it was resolved to take no action in reference to the Resolutions 3 and 4 carried at the annual meeting of Fellows and Members in November.

A protest was read against the National Insurance Bill from the wives of over 800 duly registered medical men of Manchester, Liverpool, Oldham, Blackburn, and other towns and places in England and Wales.

In response to a request from Sir William S. Church, chairman of the Brown Sanatory Committee of the University of London, the Council resolved to allow Mr. Twort, the superintendent of the Brown Institution, to give his course of five lectures at the College in January.

A letter was read from Sir James F. Goodhart, offering to present to the College a marble plaque of Mr. Edward Cock, President of the College in 1869. The offer was accepted with thanks.

A letter was read from Sir Henry Morris reporting the proceedings of the General Medical Council at their late session, and the best thanks of the Council were given to Sir Henry Morris for his services as a representative of the College on the General Medical Council.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Borough of Macclesfield.—Mr. J. H. Marsh's report lays stress on those elementary questions which are so insistent in school work. It is noted that "without exception the boys at each age period whose teeth are classed as very bad are the lowest weights of all the boys examined." Cleanliness, too, is dealt with at length. "How can children," the report reads, "coming from a home where the only water-tap is in a yard common to several houses, and where all the hot water needed for bathing has to be got from a pan on the kitchen fire, be kept decently clean?" And the question is asked, "Are not school baths a logical necessity to compulsory school attendance?" Mr. Marsh answers that the installation of a system of shower baths would "immensely improve the general well-being, discipline, and self-respect of the children." And while agreeing that in some cases parental neglect is responsible for the children's filthy condition, he points out that as in most working-class homes in Macclesfield facilities do not exist for a thorough-going hot bath, "the systematic and regular bathing of a family of children by a tired mother with few facilities for obtaining a sufficient supply of hot water is a great tax on human endurance." Treatment of defects found is another question considered, and special arrangements for dental treatment of all children at 7 years are recommended. Vision defects are already dealt with by the prescription of spectacles by the ophthalmic medical inspector. Out of 61 nose and throat cases followed up by the nurses at the end of the year 28 had received some kind of medical attention, but in 33 nothing had been done. Mr. Marsh says that inspection without treatment merely means a waste of money and the accumulation of reports, and urges the establishment of a school clinic to treat nose and throat, dental, ear, and vision cases. It is interesting to notice in connexion with the feeding of school children that this was done in Macclesfield at six schools on the advice of the medical officer, and the children were also selected for feeding by him. A mid-morning lunch was given—bread-and-butter and milk, porridge and treacle and milk, or half milk cocoa and bread-and-dripping or bread-and-margarine and jam. "The children were quite unaccustomed to such good plain food, and appeared to have been brought up either on tea and bread-and-butter or expensive and innutritious delicacies."

Durham County Council.—Dr. T. Eustace Hill's report, while taking a broad sweep and being conceived from a standpoint which completely surveys the ground, yet finds room for all needed precise detail and for three special reports by medical inspectors which are of particular value. Dr. Alice M. Burn's report on "Clothing in Relation to Physique and Physical Exercise" makes some striking statements and some highly practical suggestions which it is much to be hoped will be taken up by the education authority. Dr. Burn states "that 70 per cent. of the girls in our elementary schools are physically victimised to their clothes. .....The infant of 5 years just entering school already only too often bears the stigma of the binder in the laterally compressed thorax and the pigeon chest. The small school girl is now encompassed round about by quilted staybands of a semi rigid type, thin string-like tape supports cut into the little shoulders, the costal margin is gripped by the returning tie tapes which pass from back to front, the whole garment expressive of constraint and compression. Lung expansion and chest movement are chronically restricted, the forward droop of the shoulders with its associated hollow clavicles and prominent abdomen, is initiated and encouraged, while the whole body axis is thrown into the worst possible position for practically all the physiological processes of respiration, digestion, and elimination. .....The real needs of the developing growing body, crying out at every natural movement for space and freedom to expand, are utterly ignored or denied." This is pretty strong condemnation, but every school medical officer must feel that it is justified and will be glad to have some of the deficiencies exactly defined. Most school medical officers also will have "removed or unfastened ten different items [of clothing] before reaching the poor little cramped chest beneath," and Dr. Burn states that she and the school nurse "have constantly remarked the better chest development and the good general physique of many of the so-called neglected cases." This latter observation may apply to country areas, but does not appear applicable to towns. A very practicable suggestion in order to further ideas of rational clothing is that the Durham Coöperative Stores (from which in this county practically every home purchases) should be induced to stock "school children's and infants' garments of a rational and hygienic type." This is merely, according to Dr. Burn, a matter of planning and cutting, and she proposes, if the education committee considers the matter momentous enough, "to submit a set of clothing similar to what I have introduced elsewhere and undertake any preliminary inquiries as to material, cost, output, &c." In illustration of the deficiencies of ordinary clothing, it is mentioned that at one school, where an enthusiastic teacher was conducting physical drill on the admirable new Board of Education syllabus lines, "the movements designed to develop waist and back muscles had all to be cut out, not to mention many of the leg exercises." Dr. Burn concludes her valuable paper by a plea for the introduction of morris-dancing and for instruction for sixth and seventh standard girls in personal hygiene and home management. Dr. J. G. W. Boleyn, in a report on the Effect of Dental Caries and Oral Sepsis upon Children's Health, gives a useful list of foods which cause and foods which prevent caries, and notes the greater relative prevalence of this condition amongst "better-class" children. Two further useful reports are added—on Amelioration, by Dr. Victoria E. M. Bennett, and on Personal Cleanliness, by Dr. Elizabeth N. Niel.

Borough of Newport.—The third annual report of the infantile health centre committee is issued from the health department of the Newport corporation and contains some interesting reading for educationists and school medical officers. An early paragraph states that "the results of the examinations of school children prove that one must search for the causes [of physical defects] at a still earlier age in the majority of cases." The committee which reports has been endeavouring to cope with the causes at an earlier period by providing "schools for mothers," where not only instruction in hygiene is provided but extra nutriment for nursing mothers in the form of milk. Help with rational clothing is given and a maternity club established. But the committee concludes that "a striking circumstance, however, continually presents itself to all who labour for the welfare of the infants of the nation. It is the intimate relation between child mortality and poverty." It is much to be hoped that the sphere of influence of this committee may extend and that many imitators may be found in other places.

VITAL STATISTICS.

VITAL STATISTICS OF LONDON DURING NOVEMBER, 1911.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING NOVEMBER, 1911.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1911.	NOTIFIED CASES OF INFECTIOUS DISEASE.												DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.‡										Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.			
LONDON	4,522,628	—	1416	1052	—	104	2	40	739	6	20	3379	7·8	—	52	19	78	32	20	149	350	0·8	5827	14·1	
West Districts.																									
Paddington	142,541	—	30	30	—	5	—	—	17	—	—	82	6·0	—	—	1	3	—	—	4	8	0·6	165	12·1	
Kensington	172,296	—	28	21	—	2	—	—	17	—	—	68	4·1	—	—	—	2	—	—	4	6	0·4	169	11·0	
Hammersmith	121,837	—	30	11	—	2	—	—	12	—	—	55	4·7	—	—	1	3	—	3	6	13	1·1	176	15·7	
Fulham	153,726	—	55	44	—	6	—	3	26	—	—	134	9·1	—	—	—	8	2	2	3	15	1·0	192	13·6	
Chelsea	66,218	—	15	13	—	2	—	—	10	—	—	40	6·3	—	—	—	2	2	—	3	7	1·1	86	14·0	
City of Westminster	159,709	—	25	34	—	3	—	—	13	—	1	76	5·0	—	1	1	5	—	—	3	10	0·7	192	14·0	
North Districts.																									
St. Marylebone	117,844	—	62	18	—	—	—	—	12	—	1	93	8·2	—	—	2	—	—	1	5	8	0·7	159	15·0	
Hampstead	85,599	—	30	22	—	2	—	2	11	—	—	67	8·2	—	—	—	4	—	—	1	5	0·6	81	11·2	
St. Pancras	218,031	—	55	72	—	6	—	3	31	—	—	167	8·0	—	—	1	3	2	2	6	14	0·7	296	14·8	
Islington	327,234	—	111	84	—	12	—	1	54	1	—	263	8·4	—	1	2	5	—	1	7	16	0·5	401	13·3	
Stoke Newington	50,669	—	11	13	—	—	—	—	10	—	—	34	7·0	—	—	—	1	—	—	—	1	0·2	63	13·6	
Hackney	222,674	—	98	42	—	3	—	4	43	—	2	192	9·0	—	—	—	2	—	—	6	8	0·4	276	13·4	
Central Districts.																									
Holborn	49,084	—	8	11	—	3	—	—	5	—	—	27	5·7	—	1	—	1	—	1	1	4	0·8	75	17·1	
Finsbury	87,639	—	22	27	—	4	—	—	23	2	—	78	9·3	—	—	3	1	1	—	4	9	1·1	144	17·7	
City of London	19,475	—	1	4	—	—	—	1	1	—	—	7	3·7	—	—	—	—	—	—	—	—	—	20	11·8	
East Districts.																									
Shoreditch	111,284	—	21	24	—	3	—	—	24	—	3	75	7·0	—	1	2	1	1	1	4	10	0·9	149	14·7	
Bethnal Green	128,247	—	22	23	—	4	—	1	38	—	—	88	7·2	—	1	—	2	2	1	7	13	1·1	204	16·8	
Stepney	279,560	—	55	59	—	6	—	4	83	1	2	210	7·8	—	1	—	4	2	—	12	19	0·7	376	14·6	
Poplar	162,290	—	28	37	—	4	—	1	29	—	2	101	6·5	—	—	2	5	5	2	6	20	1·3	256	17·0	
South Districts.																									
Southwark	191,595	—	42	31	—	8	—	5	47	—	1	134	7·3	—	9	—	4	2	—	6	21	1·1	335	19·0	
Bermondsey	125,840	—	42	27	—	2	—	1	29	—	—	101	8·4	—	2	—	1	1	—	8	12	1·0	197	16·7	
Lambeth	298,032	—	131	57	—	12	—	5	39	1	4	249	8·7	—	1	—	5	3	3	13	25	0·9	420	15·2	
Battersea	167,765	—	37	41	—	2	—	1	21	1	2	105	6·5	—	3	—	2	—	—	7	12	0·7	186	12·4	
Wandsworth	313,389	—	130	77	—	10	—	4	32	—	—	253	8·4	—	—	2	6	4	2	18	32	1·1	317	11·1	
Camberwell	261,407	—	110	39	—	—	—	1	37	—	—	187	7·5	—	7	—	—	2	—	6	15	0·6	337	13·9	
Deptford	109,475	—	69	25	—	—	2	—	17	—	—	113	10·8	—	20	1	2	1	—	1	25	2·4	161	16·1	
Greenwich	95,982	—	28	62	—	1	—	—	17	—	—	108	11·7	—	4	1	2	1	—	2	10	1·1	120	13·3	
Lewisham	161,677	—	55	64	—	2	—	1	26	—	1	149	9·6	—	—	—	4	—	1	5	10	0·6	160	10·7	
Woolwich	121,609	—	65	40	—	—	—	2	14	—	1	122	10·5	—	—	—	—	1	—	1	2	0·2	124	11·3	
Port of London	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard. ‡ Deaths from "typhus fever" and "other continued fevers" are not now distinguished in the Registrar-General's weekly returns; these two columns are therefore omitted from the Table.

appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 7·8 per 1000 of the population, estimated at 4,522,628 persons in the middle of the year. In the three preceding months the rates were 4·4, 6·9, and 8·5 per 1000 respectively. The lowest rates last month were recorded in Paddington, Kensington, Hammersmith, Chelsea, the City of Westminster, Holborn, and the City of London; and the highest rates in Fulham, Hackney, Finsbury, Deptford, Greenwich, Lewisham, and Woolwich. The prevalence of scarlet fever showed a marked decline from that recorded in the previous month; among the several metropolitan boroughs the greatest proportional prevalence of this disease occurred in St. Marylebone, Hackney, Lambeth, Wandsworth, Camberwell, Deptford, and Woolwich. The Metropolitan Asylums Hospitals contained 2103 scarlet fever patients at the end of last month, against 1324, 1656, and 2152 at the end of the three preceding months; the weekly admissions averaged 254, against 261 and 317 in the two preceding months. Diphtheria was slightly more prevalent than it had been in the preceding month; this disease was proportionally most prevalent in Fulham, St. Pancras, Finsbury, Greenwich, Lewisham, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 720, 892, and 1143 at the end of the three preceding months, had risen to 1327 at the end of last month; the weekly admissions averaged 180, against 138 and 168 in the two preceding months. The prevalence of enteric fever showed a considerable decrease from that recorded in either of the two preceding months; the greatest proportional prevalence of this disease occurred in Fulham, Islington, Holborn, Finsbury, and Lambeth. There were 85 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 56, 155, and 160 at the end of the three preceding months; the weekly admissions averaged 9, against 39 and 23 in the two preceding months. Erysipelas was proportionally most prevalent in Stoke Newington, Hackney, Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, and Bermondsey. The 40 cases of puerperal fever notified during the month included 5 in Southwark, 5 in Lambeth, 4 in Hackney, 4 in Stepney, 4 in Wandsworth, 3 in Fulham, and 3 in St. Pancras. Of the 20 cases of poliomyelitis nctified, 4 belonged to Lambeth, 3 to Shoreditch, and 2 each to Hackney, Stepney, Poplar, and Battersea; and 2 of the 6 cases notified as cerebro-spinal meningitis belonged to Finsbury.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the several boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the populations of the several boroughs. During the five weeks ending Dec. 2nd the deaths of 5827 London residents were registered, equal to an annual rate of 14·1 per 1000; in the three preceding months the rates had been 18·9, 16·8, and 15·1 per 1000 respectively. The death-rates last month ranged from 10·7 in Lewisham, 11·0 in Kensington, 11·1 in Wandsworth, 11·2 in Hampstead, 11·3 in Woolwich, and 11·8 in the City of London, to 16·7 in Bermondsey, 16·8 in Bethnal Green, 17·0 in Poplar, 17·1 in Holborn, 17·7 in Finsbury, and 19·0 in Southwark. The 5827 deaths from all causes included 52 from measles, 19 from scarlet fever, 78 from diphtheria, 32 from whooping-cough, 20 from enteric fever, and 149 among children under two years of age from diarrhœa and enteritis. No death from any of these diseases was recorded last month in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Kensington, Islington, Stoke Newington, Hackney, and Woolwich, and the highest rates in Hammersmith, Chelsea, Finsbury, Bethnal Green, Southwark, Wandsworth, Greenwich, Poplar, and Deptford. The 52 deaths from measles were less than one-third of the corrected average number in the corresponding period of the five preceding years; of these 52 deaths, 20 belonged to Deptford, 9 to Southwark, 7 to Camberwell, 4 to Greenwich, 3 to Batterses, and 2 to Bermondsey. The 19 fatal cases of scarlet fever were 28 fewer than the corrected average, and included 3 in Finsbury, 2 in St. Marylebone, 2 in Islington, 2 in Shoreditch, 2 in Poplar, and 2 in Wandsworth. The 78 deaths from diphtheria were slightly below the corrected average; this disease was proportionally most fatal in Fulham, Chelsea, the City of Westminster, Hampstead, and Poplar. The 32 fatal cases of whooping-cough were 26 below the corrected average number, and included 5 in Poplar, 4 in Wandsworth, and 3 in Lambeth. The 20 deaths referred to enteric fever showed a decline of 8 from the corrected average number; of these 20 deaths 3 belonged to Hammersmith, 3 to Lambeth, and 2 each to Fulham, St. Pancras, Poplar, and Wandsworth. The 149 deaths from diarrhœa and enteritis among children under two years of age were less than half the number in the previous month; the greatest proportional mortality from this cause was recorded in Hammersmith, Chelsea, Finsbury, Bethnal Green, Bermondsey, and Wandsworth. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases (excluding diarrhœa) was 47 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Hubert William Austin Burke has been placed on the Retired List at his own request.

The following appointments have been notified:—Fleet-Surgeon: G. T. Bishop to Malta Hospital. Staff-Surgeons: D. V. Lowndes to the *Pembroke*, for R.N. Barracks; and R. R. Horley, L. M. Morris, and G. H. M. Mills to the *Victory*, additional, for disposal. Surgeons: A. D. C. Cummins to the *Victory*, for R.N. Barracks; W. R. Harrison to the *Victory*, additional, for disposal; G. Moir to the *Vivid*, additional, for disposal; and G. T. Verry to Haslar Hospital.

ARMY MEDICAL SERVICE.

Surgeon-General Sir Francis W. Trevor, K.C.S.I., C.B., K.H.S., is retained supernumerary to the establishment, under the provisions of Articles 92 and 472 Royal Warrant for Pay and Promotion, 1909 (dated Dec. 11th, 1911). Colonel Thomas M. Corker to be Surgeon-General, vice Sir F. W. Trevor, K.C.S.I., C.B., K.H.S. (dated Dec. 11th, 1911). Colonel (temporary Surgeon-General) William Babtie, V.C., C.M.G., to be Surgeon-General to complete establishment (dated Dec. 11th, 1911). Lieutenant-Colonel James M. Irwin, from the Royal Army Medical Corps, to be Colonel, vice T. M. Corker (dated Dec. 11th, 1911).

ROYAL ARMY MEDICAL CORPS.

Lieutenant Arthur J. O. Wigmore resigns his commission (dated Dec. 16th, 1911).

Lieutenant-Colonel G. G. Adams, commanding the Military Hospital at Colaba, Bombay, has been selected for the higher rate of pay under Article 317 of the Royal Warrant. Lieutenant-Colonel T. McCulloch has arrived home, tour-expired, from India, and has been appointed in charge of the Medical Divisions of the Royal Victoria Hospital at Netley. Lieutenant-Colonel M. J. Sexton, lately in medical charge of the Military Hospital at Arbor Hill, Dublin, has embarked for a tour of service in South Africa. Lieutenant-Colonel J. Donaldson, in charge of the infectious diseases hospital at Aldershot, has been detailed by the War Office for a tour of service in India, and on arrival will be posted for duty in the Second (Rawal Pindi) Division. Lieutenant-Colonel T. Daly has been selected to hold Medical Charge of the Station Hospital at Peshawar. Lieutenant-Colonel M. P. C. Holt, D.S.O., honorary surgeon to the H.E. the Viceroy of India, has been appointed to command the Station Hospital at Kasauli. H.E. the Commander-in-Chief in India has been pleased to grant an extension of the command of the Station Hospital at Lucknow to Lieutenant-Colonel H. N. Thompson, D.S.O., honorary surgeon to H.E. the Viceroy. Major G. M. Goldsmith has been selected for appointment to command the Station Hospital at Lebong. Major T. H. J. C. Goodwin, D.S.O., on completion of his Indian tour of service, has been appointed to the Southern Command. Major F. Harvey, from Devonport, has taken up duty at Bodmin. Major L. N. Lloyd, D.S.O., on completion of his tenure of appointment as adjutant of the Royal Army Medical Corps School of Instruction at London, has been posted for duty in the

Western Command. Major F. J. C. Heffernan, from the London District, has taken up duty with the Fifth (Mhow) Division in India. Major S. de C. O'Grady has been transferred from the Military Hospital at Khartoum to Cairo. Major H. E. Staddon, from Shorncliffe, has been appointed to the Military Hospital at Dover. Major R. H. Lloyd, lately adjutant of the Royal Army Medical School of Instruction at Exeter, has embarked for a tour of service in India, and on arrival will be posted to the Third (Lahore) Division. Major E. P. Sewell, from Belfast, has taken up duty in Ceylon. Major J. V. Forest, in medical charge of the troops at Kasr-el-Nil, Cairo, has been transferred for duty at the Military Hospital, Khartoum. Major J. D. McCarthy, from Multan, has taken up duty at Rawal Pindi. Captain E. V. Aylen has been transferred from Nowshera to Barian. Captain J. M. H. Conway, from the Royal Infirmary, Phœnix Park, Dublin, has taken up duty as Adjutant of the Royal Army Medical Corps School of Instruction at Leeds in succession to Major H. S. Roch. Captain F. M. Parry, from Maidstone, has embarked for a tour of service in Mauritius. Captain J. W. S. Seccombe has arrived home for duty from Nasirabad. His Honour the Lieutenant-Governor of the United Provinces in India has been pleased to appoint Captain T. Scatchard to hold Civil Medical Charge of Ranikhet in addition to his military duties in succession to Major W. G. Beyts. Captain S. M. W. Meadows has taken over Charge of the Military Families Hospital at Tidworth Park, Salisbury Plain. Captain F. W. W. Dawson, from Dublin, has embarked for a tour of service with the Northern Army in India. Captain T. J. Potter, at present employed in the London District on medical recruiting duty, has been placed under orders for a tour of service in Egypt. Captain H. G. Sherren, from Colaba, and Captain C. F. White, from Jhansi, have been detailed for duty on board the troopship s.s. *Dongola*, leaving Bombay for Southampton on Dec. 28th. Captain A. W. Sampey, on relief by Lieutenant-Colonel F. W. H. Burton, in charge of the Military Hospital at Warley, has been granted six weeks' leave of absence prior to embarkation for a tour of service in India. Captain J. Powell has arrived home on leave of absence from Egypt. Lieutenant H. Gall, from Dagshai, has taken up duty at Simla. Lieutenant A. S. M. Winder, from the Curragh, and Lieutenant M. White, from Bordon, have embarked for a tour of service in India. Lieutenant L. F. K. Way, from Cosham, has been transferred for duty at the Military Hospital, Hilsea. Lieutenant H. F. Joynt, from Hounslow, has embarked for a tour of service in South Africa. Lieutenant G. P. Taylor has been transferred from Irvine to Glasgow for duty at the Military Hospital. Lieutenant S. S. Dykes, on the closing of the Training Camp at Barry, has been posted to Aberdeen. Lieutenant S. W. Kyle, from Jubbulpore, has been appointed to the Station Hospital at Jhansi. Lieutenant A. W. Byrne, from Dalhousie, has taken up duty at Lahore Military Hospital.

INDIAN MEDICAL SERVICE.

The King has approved of the confirmation of the commissions of the following Lieutenants on probation with effect from July 29th, 1911:—Edward Slade Goss and Percival Sandys Connellan.

The King has approved of the retirement of Lieutenant-Colonel D. G. Crawford (dated Dec. 5th, 1911).

H.E. the Viceroy and Governor-General of India has been pleased to appoint Colonel J. Smith, officiating principal medical officer of the Secunderabad Brigade, to be an Honorary Surgeon on His Excellency's personal staff, in succession to Surgeon-General P. H. Benson, retired. Lieutenant-Colonel W. R. Edwards has arrived home on leave of absence from India. Major F. F. Elwes has been appointed Surgeon to H.E. the Governor of Madras. Major A. M. Fleming, civil surgeon at Raipur, has been granted furlough on medical certificate home from India for one year. Major H. J. Walton has been selected for appointment as Civil Surgeon at Saharanpur. The Chief Commissioner of the Central Provinces has appointed Captain M. F. Reaney, civil surgeon at Wardha, to the Executive and Medical Charge of the Wardha District Jail. On relief by Major T. G. N. Stokes, of the office of the Sanitary Commissioner of the Central Provinces, Major W. H. Kenrick has been placed on special duty in connexion with the investigation and prevention of malarial fevers in the Central Provinces. Major J. W. F. Rait, Bengal Presidency, has been permitted by the Right Hon. the Secretary of State for India to extend his leave of absence by four months. Major A. A. Gibbs has been appointed Medical Storekeeper to the Government of India at Lahore, in succession to Lieutenant-Colonel P. W. O'Gorman, who has vacated the appointment. Surgeon-Captain W. A. Murray, in medical charge of the Assam-Bengal Railway Volunteer Rifles, has been granted leave of absence home from India for one year and three months by the General Officer commanding the Assam Brigade. Captain A. W. Overbeck-Wright, officiating superintendent of the Central Prison at Agra, has been appointed to officiate as Superintendent of the Lunatic Asylum at Agra, in succession to Major A. W. R. Cochrane, granted leave of absence. Captain C. F. Marr, medical storekeeper to the Government of India at Bombay, on relief by Major F. E. Swinton, returning from furlough, has been detailed to rejoin his regiment. Captain W. Jeudwine has been appointed to officiate as Civil Surgeon of Simla, West, during the absence on deputation to Delhi of Lieutenant-Colonel C. Duer. Captain J. W. McCay, Bengal Presidency, has been permitted to extend his leave of absence home from India for one month on the recommendation of a medical board. Captain A. W. Howlett, whose services have been placed temporarily at the disposal of the Government of the United Provinces, has been appointed to officiate as Superintendent of the Central Prison at Agra. Captain N. S. Wells, on return from leave, has been appointed Civil Surgeon at Ghazipur. Captain D. Munro has been granted an extension of leave for three months by the Right Hon. the Secretary of State for India. Captain H. C. Keates has relinquished charge of the duties of superintendent of the Jullundur District Jail. Captain E. T. Harris has been granted four months' extension of his leave of absence. Captain G. D. Franklin has taken up duty as Agency Surgeon at Gilgit on return from leave. The services of Captain E. C. C. Maunsell have been placed temporarily at the disposal of the Government of India. Captain J. Cunningham has been selected for appointment to the Bacteriological Department. Captain N. S. Sodhi has taken up duty as Plague Medical Officer in the Gurgaon District.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Captain and Honorary Major William V. Sinclair (Honorary Lieutenant in the Army) resigns his commission, with permission to retain his rank and wear the prescribed uniform (dated Dec. 16th, 1911).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd East Lancashire Field Ambulance, Royal Army Medical Corps: Lieutenant William F. Munro to be Captain (dated Sept. 23rd, 1911).

1st Wessex Field Ambulance, Royal Army Medical Corps:—The undermentioned officers to be Captains (dated Nov. 5th, 1911): Lieutenant Thomas Duncan, Lieutenant George P. D. Hawker, Lieutenant John Miller, and Lieutenant Richard Eager.

Supernumerary for Service with the Officers Training Corps.—The undermentioned officers from the Unattached List for the Territorial Force are appointed, with rank and precedence as on the Unattached List, for service with the medical unit of the University of London Contingent, Senior Division, Officers Training Corps (dated Dec. 16th, 1911): Captain Archibald Montague Henry Gray, Lieutenant (Provisional Captain) Robert Davies-Colley, Lieutenant (Provisional Captain) Alfred Edward Johnson, Lieutenant John Charlton Briscoe, Lieutenant Thomas Bramley Layton, Lieutenant Gordon Clunes McKay Mathison, and Lieutenant William Victor Corbett.

THE MILITARY SURGEON.

In the December issue of the *Military Surgeon* Major Paul F. Straub, of the General Staff, U.S. Army, Sanitary Inspector, Manœuvre Division, gives an interesting account of the working of the Medical Department of the division at San Antonio, Texas, under the new field service regulations. The Medical Department was made responsible for the sanitary service of the division, and was given by the commanding general the necessary authority and means for carrying it on. The result was that after the lapse of four months the sick rate of the division is reported as never having exceeded half the average sick rate at the military

posts. General orders defined and prescribed the power and authority of the chief surgeon and the sanitary inspector, and dealt with the water-supply, regimental surgeons, disposal of wastes, the sale of foods and drinks in camps, and the control of sanitary squads. Illustrations are given of a type of garbage incinerator which was finally developed as the result of experiment, and was found very efficient.

Correspondence.

"Audi alteram partem."

THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—It is desirable that the action of the medical profession with regard to the National Insurance Act should be based on a clear enunciation of just principles, and on a recognition of undeniable facts. The Act is founded on a system of contract medical practice.

Now it cannot be denied that (1) contract practice involves an undertaking by the practitioner to perform what it is certain that he will not always be able to perform; (2) contract practice destroys the relation of mutual confidence between patient and practitioner, and introduces an opposition of interests between them; (3) under contract practice no patient will ever be satisfied with the amount of attention which he receives from his doctor, however conscientious and diligent that doctor may be; (4) under contract practice the medical man is certain to be grossly overworked, to be subject to unreasonable calls (and at unreasonable hours) for the most trifling ailments, and to be constantly liable to dismissal for failing to perform what it will be impossible for him to perform.

If these facts are undeniable, is it not clearly the duty of every member of the profession to refuse to work under the Act *so long as it is administered on a basis of contract?*

I am, Sir, yours faithfully,

Dec. 19th, 1911. DAVID B. LEES, M.D., F.R.C.P.

To the Editor of THE LANCET.

SIR,—The amount of unpaid labour imposed on medical men by the services that they are expected to give on the committees of this Act does not appear to have received the attention that their onerous nature demands. The Insurance (Health) Committees are to consist of from 40 to 80 members, their meetings will necessarily be protracted, frequent in number, and often distant from the residence of the medical men serving on them, so that much time and expense will be involved in attendance.

This, however, would be only a portion of the *corvée* since much more work would be entailed by interviews and correspondence with medical co-workers and attendance at the meetings of the local panel or committee. This work will also involve considerable friction and worry, increased by the knowledge that the work is utterly useless and hopeless, since they will always be in a minority on the Insurance Committees of 1 to 16.

The time occupied in service on a Health Committee could scarcely occupy less than ten working days of eight hours per annum and might easily be more. These committees, allowing for the county subdivisions, will number at least five hundred and the number of medical men employed on them must exceed a thousand. The extent of the medical *corvée* can be easily estimated. The Insurance Committees are, so far as the profession is concerned, a sham. The Friendly societies will dominate them completely and the profession will be handed over without power of resistance to the tender mercies of bodies whose "sweating" proclivities are well known. If the medical profession accepts the *corvée* imposed on it its members will be reduced practically to a state of socialistic serfdom.

I am, Sir, yours faithfully,

Queen Anne-street, W., Dec. 18th, 1911. HENRY RAYNER.

To the Editor of THE LANCET.

SIR,—The Chancellor of the Exchequer has stated that payment per visit is an impossibility under the present Insurance Bill. The logical conclusions to be drawn are: (1) the Government is dependent for the success of the Bill upon the *charity* of the medical profession—which ruins the Bill as a sound financial proposition; (2) the Government is deliberately *sweating* the medical profession—a disgrace to the originators of the Bill and an insult to the profession.

The "six cardinal points" of the British Medical Association *were* loyally accepted even by those of us who were not members, but in view of the way in which the Asssociation has been flouted I feel that the profession should now stand firm and demand *payment for work done*, and nothing less. The attitude of the profession has been hitherto very passive, but the apathy of its leaders is far from creditable. Does the General Medical Council mean to do nothing? Can it without protest allow the profession to be sweated? Is the charity of the profession to be farmed out by the State for profit without some intervention from the General Medical Council, or does it allow the State to do what it forbids to a commercial enterprise? Let us stop the huckstering and bargaining that have gone on and remember the dignity of our profession.

Payment for work done—that and nothing else—should be our watchword. Cannot this matter be taken in hand at once by some influential organisation? I am confident that it would meet with the entire support of the profession.

I am, Sir, yours faithfully,

Carlisle, Dec. 18th, 1911. RICHARD SEDGWICK, M.D. Cantab.

To the Editor of THE LANCET.

SIR,—Can you or any of your readers inform me why the British Medical Association in its six points insists on a wage-limit? Does it cost more to attend a man earning £2 2*s.* a week than a man sitting on the next stool earning only £2? Is there any logical basis for fixing any wage-limit, unless we propose to continue the semi-charitable methods of medical attendance that at present characterise club practice? If the pay fixed is *adequate* I cannot see that a wage-limit is needed.

The British Medical Association would have been better advised if they had faced the question of adequate pay in the first instance. If they had said 8*s.* 6*d.* per annum, to include drugs and dressings (not appliances)—in fact, the terms now paid for Post Office employees—they would have had practically all the medical men engaged in industrial practice behind them, and I honestly think the Government would have yielded to these terms. If any general practitioner agrees with me that an endeavour should now be made to secure these terms from the Commissioners I should be glad if he would send me a postcard.

I am, Sir, yours faithfully,

CHARLES F. SEVILLE, M.B. Lond.

Oulton, Leeds, Dec. 18th, 1911.

To the Editor of THE LANCET.

SIR,—I have seen nothing during this controversy as to the attitude that consultants will take, now that the Bill has passed, towards those members of the profession who may be willing to work under the Act in its present form.

In common with many other practitioners, I should be interested to learn if the consultants will be willing to meet them as usual. Is there any sort of authoritative body to speak for consultants, or will any senior man among them give his opinion?—I am, Sir, yours faithfully,

FRANK G. WALLACE.

Earl's Court-road, London, S.W., Dec. 16th, 1911.

To the Editor of THE LANCET.

SIR,—Dr. Luard, I think, says everything that can be said in favour of retention of our time-honoured system of payment by fee, and has thought of two or three fresh things to say against the system I am advocating—that of payment by premium *per capita*. Several of his points are well thought out and clearly put, and I will essay to meet them later on. He fails, however, to approach my two main standpoints. I will repeat them. 1. In the face of a constantly falling sickness rate, payment by fee inevitably means a declining income. I assert that every income

derived from, say, 1000 private clients to-day is much less than it was ten years ago, and is still declining. (It has required an increase of 200 in that time to keep my own income steady.) How are we, then, going to meet this decline? He proposes no remedy. There is no remedy but the system I advocate, unless we are turned into State medical officers. 2. Payment *per capita* on an adequate premium is more remunerative than payment by fee for work done. A thousand clients paying anything you like *per capita* per annum will yield more income than 1000 private clients of the same wage or salary or income class. I say "anything you like" without hesitation, because where there is a low club premium one may take it there will also prevail a low scale of fees per visit. Payment *per capita* is adaptable to all ranks of the community, and when one has gained a thorough grasp of the elementary principles of insurance one will see that this method is founded on a scientific basis. A considerable number of doctors and most of the public have no clear comprehension of the principles that underlie insurance. In illustration of this charge let me quote Dr. Luard: "What value will he place on services obtained for 4*s.* a year? He will value them just at four shillings' worth." If Dr. Luard goes to a club patient down with pneumonia, with the idea in his head that he is only being paid 4*s.* for his attendance on this patient, he is making a serious mistake. It is a mistaken idea that affects seriously the whole of his conduct of the case. With this idea in his head he naturally feels he is in the position of one who is giving a lot for next to nothing; that he is being exploited, imposed upon, sweated, and cheated; that "he need not give more than value for the money"; that "his sense of honour does not compel him to do more than earn his money." Club patients often imagine this also. Now, that the patient only pays 4*s.* per annum is true, but the service rendered to the individual is paid for by the combined premiums of all the club members.

It is owing to forgetting this fact that club work has been bespattered with every abusive epithet in the language. "Rural Practitioner's" letter last week will enlighten many as to the astonishingly small amount of work there is to do for the 4*s.* or 6*s.* *per capita* per annum. I am not protected as that practitioner is by anonymity, or I could give details that would endanger my very existence as club doctor. Dr. Luard should remember that the sum total of the members' premiums constitute the club salary which pays for all the visits he makes throughout the year to club patients. Many club members never degenerate into patients, but they are "covered" all the time. For 20 years and more I have paid large premiums to our medical sickness society and have not had a day's sick pay, but I have been "covered"! Is it "unethical" for this society to take all this money from me without rendering me any services? Is it wicked or unjust to receive premiums year after year from club members who are foolish enough never to call upon my services? Do I feel aggrieved? Have not I and they been "covered" all the time we have not been ill?

Once it is recognised that we get paid as much for all our year's visits to club patients as we do for our year's visits to private cases, opposition to the system must collapse. With free choice of doctor and under the Act, for instance, Nos. 1, 2, 4, and 5 of Dr. John Dunlop's objections in last week's issue at once fall to the ground; only No. 3 remains standing. Once it is recognised, we should realise that the club patient has hitherto not been treated with justice—he is entitled to all that a private patient expects and gets from his doctor "as measured by our visits and their results." If any one doubts whether his own practice would show results like those recently discovered in mine and related in my previous letters, I beg him to investigate. It is a very simple piece of work and can be done in half an hour. One should ascertain the number of club members and the total amount received from them in a year. Then from the ledger one should count all the names therein and now living, adding names of members of each household, and not forgetting to count in the names of those one knows would come to us if they ever became ill (there are many such in every practice), and add up the total—this will give the number of one's *private clients*. Finally, ascertain one's income from *private patients*. Thus we have: so many club *members* pay so much salary; so many private *clients* yield so much income. Any difference there may be I am confident in believing will be found to be to the advantage of club practice. And it is a difference in its favour that is growing greater every year. In figures I may put it thus: 500 or x club members will yield more income than 500 or x private clients of the same class.

"Any transaction in which the payment is a known fixed sum and the work an unknown variable quantity stamps itself as a gamble," says Dr. Luard, having in mind, of course, this pernicious payment *per capita*. This statement would be perfectly true, not only of insurance for medical attendance, but also of insurance against burglary, or fire, or broken windows, but for one slight flaw in the premiss. He describes the work as an unknown variable quantity. Let me ask him if it is not true that birth-rates and death-rates and sickness-rates, &c., vary so slightly year by year that actuaries are enabled to base their calculations for premiums for insurance against all sorts of risks, on the recurrence of an average. How could insurance companies do business if they had nothing but a gambling guess to work on? Does he not know that the number of sick days that any club will have to find sick pay for next year can be calculated—I do not say to a certainty—but to a marvellous approach to actuality?

But let us look at the sentence again. "Any transaction in which the payment is a known fixed sum and the work an unknown variable quantity stamps itself as a gamble." In medical practice a confinement which entails "work of an unknown variable quantity" is paid for by a known fixed sum—it may be months ago the lady's inquiry was answered as to fee. Here is gambling, indeed. Work variable? There are no two confinements alike. I may, indeed, say that no two consecutive visits on a morning's round are alike. They are all dissimilar, variable, and unlike. Dr. Luard may "give substantially the same time and care to all cases," but are these the only factors of a visit? What of distance, quantity, period of day or night, professional acumen called forth, &c. Doesn't he discriminate at all? Dr. Luard thinks "that from reasons of expense private clients only call us when they need." And do they always pay us for the call and do we only call when they need us? A friend of mine was once called to see a child with measles at the house of one of his wealthiest patients. He wrote a prescription, gave full directions as to diet, &c., and on leaving was told by the mother that he need not call again unless he was called, and that if he should be needed she would call him. As he was not called he naturally concluded he was not needed, so of course he did not call, but a few weeks afterwards he heard from his chemist that the whole family of eight children had heroically struggled through measles on that prescription and those directions.

There will be "enormously enhanced work," Dr. Luard tells us, if payment is to be on the *per capita* system. Is, then, the nation, on the Act coming into operation, suddenly going to take on fearsome unknown diseases, to pick up germs we have never dreamt of, to hurt itself in quantities we have never known before? Or is the nation going to set about raising its birth-rate? To quote Dr. Luard again, but lastly, "When one considers the quality of work turned out by overworked people I think it will be admitted," &c. This is, of course, a jibe at the sort of work a club doctor does when he is in the thick of influenza. It is, however, quite easy to twist this argument to face the case of the fashionable West-End physicians, who, I gather from my morning's paper, "are exceedingly busy now that winter colds have descended upon us." I trust the quality of the work of our *confrères* of the West-End does not deserve the description Dr. Luard applies "to the work of over-worked people."

I am commiserated for wasting my efforts on "a deservedly lost cause." Is it going too far to say of "payment by fee for work done" so ably defended by my opponent that it was seen to sicken on the day the first medical officer of health was appointed, and that it has been failing visibly ever since, and that the attending physicians have now given up hope of its recovery.—I am, Sir, yours faithfully,

West Mersea, Colchester, Dec. 17th, 1911. B. HALL.

To the Editor of THE LANCET.

SIR,—Black and white do not differ more from each other than do the extreme opinions as to what would be a fair rate of payment for the medical men, by means of whom the Insurance Bill would have to be worked. If one could find some guide as to what has been fixed as a fair rate by the

Government in the past in some like circumstances, it would be possible to form some basis upon which to build. Luckily there is one such arrangement in being, and there has been for many years. The surgeons appointed to attend the coastguards are paid at the rate of half-a-crown an attendance, and a shilling a mile is allowed for mileage. This is modest enough payment to suit the most fastidious of economists. Surely no one would suggest that the visit of a skilled medical man is to be valued at less than half-a-crown, or that for mileage he should be content with less than a livery stable keeper. It will no doubt at once be argued by the promoters of the Bill that the funds to be forthcoming will not allow of anything like such a rate of payment, and that we must take a capitation fee of so much. In plain English this means that the amount per visit statistically worked out from the amount of the proposed capitation fees would come to much less than the half-a-crown together with the amount for mileage, or, in other words, that a great nation means to force medical attendance on its citizens by exploiting the services of its medical men like any East-end employer of sweated labour.

But a Government department has seen fit to institute this very rate of payment for attendance on one of the most healthy classes of man to be found in the country. We should be required to attend the halt, the lame, and the blind; and the whole average of the health would be much lower than that of the coastguards.

If the authorities persist that the money cannot be forthcoming in that amount, what is that to us? We never asked for any interference with our professional relations, nor if we are anything better than idiots born will we take anything less than the Government's own standard. Mayhap the authorities will say that they cannot trust us not to push in unnecessary visits if we are to be paid for work done. Be it so; but neither can we trust the patient not to take advantage of us if a capitation fee be fixed, and as the insulted party we are entitled to the first shot.

If we stand firm for this very modest payment, and if therefrom the Bill become a dead letter, the people who will think much harm will come of that must be very few and far between. Medical men as a class are educated men, and necessarily not likely to be blind worshippers of socialism and bureaucratic forms of government; nor possibly have their experiences of the moral influence of insurance in the past been such as to cause them to regret, from the point of view of the national character, any prevention of its further extension.

If medical men tamely submit to be at the beck and call of the populace, day or night, wet or fine, snow, hail or sunshine, without being paid adequately for work done, they will deserve the life of slavery to which they will undoubtedly condemn themselves. Also let them remember that they hold the position they now do, not only for their own interests but also in trust for the posterity of the profession, possibly for their own sons. One of the "six cardinal points" is that the remuneration shall be according to the will of the profession, and such as is suitable to different areas. Let the fee suitable in each area be at the rate of half-a-crown a visit and a shilling a mile for mileage, and let no single division make agreement for a penny less, and it must inevitably come to pass that in spite of their promise of the "gift" of medical attendance by the process of the outrageous sweating of the medical profession, the promoters of the Bill will find that they have perforce to give way to the interests of the medical fraternity.

I am, Sir, yours faithfully,

R. N. WEEKES, M.R.C.S. Eng., L.R.C.P. Lond.

Modbury, South Devon, Dec. 14th, 1911.

To the Editor of THE LANCET.

SIR,—The above Bill, as last passed by the Commons, provides that doctors acting under this Bill shall *not* dispense, nor supply drugs to "insured persons." This is a very serious thing, and should be amended. Doctors should now know—and if they do not it is their own shameful fault—that Clause 15, line 30, p. 17, provides that the insured person shall "receive adequate medical attendance and treatment." The same clause (5), p. 19, provides that they shall receive "proper and sufficient drugs and medicines and prescribed appliances" if ordered by the insurance doctor. The same clause (ii.), p. 20, provides that no arrangement shall be made by a "Local Insurance Committee with a medical practitioner under which he is bound or agrees to supply drugs or medicine to any insured persons." On p. 21, line 10, the right of the "assistant to any apothecary" (a licence still granted by the Apothecaries' Society, London), "to compound and dispense medicines" is preserved. But as there are not many doctors holding the Apothecaries' Society medical diploma (L.S.A. Lond.), this proviso affects very few doctors. Also, I understand, that Society does not now grant many licences as "assistant apothecaries," most men now taking the chemists' certificate from the Pharmaceutical Society. But even if all doctors could supply drugs to insured persons, it would not pay them as the actuarial reports upon the Insurance Bill are worked out upon a basis of 4*s.* per member per annum to the doctor, and 2*s.* to the chemist per annum per member. No respectable doctor could honestly supply good reliable drugs to insured persons for 2*s.* per annum. This is now especially so, as under the Bill all ages over 16 are eligible to become members, including thus Friendly Societies, Post Office depositors, old-age pensioners, those under the unemployment clauses, and those discharged from the army, navy, and mercantile marine.

Some may fancy—but they have no right to fancy, as this Bill is too serious a proposal—that because Clause 15 (3), p. 19, provides that if insured persons have an income "*exceeding* a limit to be fixed by a committee," and that such insured persons "may make their own arrangements for receiving medical attendance and treatment, including medicines and appliances," that this is applicable to *all* insured. Nothing of the kind. Clause 1 provides that there are two kinds of insured persons, "employed contributors" and "voluntary contributors." No income limit is fixed for the former, while £160 is fixed for the voluntary. But even here the Bill makes no provision as to how we are to find out an insured person's income. The fact is, no such proviso exists, or can exist. Had there been a house rent basis instead of income basis, things would have been easier unravelled.

The fact that by Clause 15, A (1), p. 20, the scale of prices fixed by the committee is binding upon the chemists emphasises my point. It will therefore be seen by those who are not "addled fools" that this Bill proposes to repeal those sections of the Medical Acts which now empower doctors to charge for the supply of drugs. It also proposes to repeal the charters of the Royal Colleges of Surgeons and Physicians, and the two Apothecaries' Societies, and also the Pharmacy Acts. Any sensible person should see that doctors must be empowered to supply, and charge for the supply of drugs in all cases where an anæsthetic is needed, in cases of poisoning, in all emergency cases, and where they are far from a chemist. I therefore suggest that the Bill be amended so as to empower a doctor to either agree or disagree to supply medicines to insured persons; that all be permitted to supply and charge for medicines supplied in all cases of urgency; and that a yearly grant of 5*s.* be granted to each doctor per member per annum, or that the scale of charges for chemists be the scale of charges for doctors who agree to supply medicines to insured persons. Further, I would suggest that it be made by this Bill for any medical practitioner to supply and charge for medicines, except in case of urgency, on and after December, 1954. There is a precedence for this in Section 27 of the Medical Act, 1858, which provides that if *any person* was practising medicine in England before 1815, whether he had or had not a medical qualification, such person was entitled to have his name entered on the Medical Register of the United Kingdom.

May I very seriously urge all Members and Licentiates of the Colleges of Surgeons and Physicians and of the Apothecaries' Societies to bring at once the above facts to the notice of their Colleges and also to the General Medical Council. I am, Sir, yours faithfully,

Liverpool, Dec. 15th, 1911. ROBERT R. RENTOUL.

To the Editor of THE LANCET.

SIR,—Now that it has been decided not to work the Act unless the six cardinal demands are granted, we are confronted with the necessity for a definite interpretation of the words "adequate remuneration." Everyone but the Chancellor has shied at any attempt to fix a figure, even a

minimum. And the Council seemed glad to pass the responsibility on to the divisions, without a hint of the advantage of an early settlement of the minimum rate.

Most general practitioners are sore that the Council did not from the first emphatically repudiate the 4*s.* 6*d.* limit. At any rate we are now face to face with the question, and it seems to me the first essential is to fix a fighting minimum, below which all discussion with Insurance Committees, whether in town or country, is to be barred. If 4*s.* 6*d.* per head per annum is intolerable and absurd, what is tolerable and reasonable?

Naturally the remuneration should depend on the nature and scope of the treatment expected, and it is of the first importance that this should be clearly defined by the Commissioners in the immediate future. But if the Act implies no more than the medical and minor surgical attendance now given to Friendly Society members, and it will not be less, the ability to decide will not increase by waiting. Only the Council can authoritatively settle the minimum, whether the payment be per head or per item. And the latter, owing to its infinite uncertainties and nauseous clerical work, seems scarcely "practical politics" at present. The Council must, before deciding, know the feelings of the divisions and the rank and file.

Will it not be difficult for the individual practitioner to fix a provisional and personal minimum without an idea of the opinions of his branch in detail, and of the neighbouring and other branches more generally? As referenda seem likely to be the vogue, why not have one on this very point and the collected results distributed to everyone in general practice? With this information opinions could be condensed in divisional meetings for transmission to a meeting of the Representative Body, and the final result to be accepted by all announced by the Council. Afterwards at leisure the local adequacy or not of this minimum could be discussed in the branches, and a working local rate settled with the approval and assistance of headquarters.

May I suggest the Post Office rate as a minimum, the exclusion of medicine being more than compensated by the inclusion of indifferent and bad lives?

I am, Sir, yours faithfully,

Dec. 17th, 1911. A HULL PRACTITIONER.

To the Editor of THE LANCET.

SIR,—I shall be glad if some reader of THE LANCET will explain to me how it is the prices asked for practices advertised in your journal are steadily rising. I quite expected the Insurance Bill would have caused a glut in the market and a rapid fall in value, especially in "cash" practices. But two years' purchase, estimated on the *gross* receipts, seems to be the usual thing for a partnership with introduction, and anything from one year's purchase upwards for a death vacancy. Surely the effects of the proposed Bill cannot be so very terrible after all.

I am, Sir, yours faithfully,

Dec. 16th, 1911. M.D., F.R.C.S.E.

LEISHMANIA AND MOSQUITOES.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Nov. 11th there appeared a commentary by Dr. C. M. Wenyon upon my note published in the previous number of THE LANCET. Above all I thank Dr. Wenyon for the interest shown in my researches, and I am very glad that he has found in his important studies on the oriental sore the presence of different forms of leishmania in the gut of stegomyia fasciata. This confirms what I have shown in respect of the leishmania donovani and the anopheles. Moreover, I have pointed out that not only this but also some varieties of culex can be infected by the cultures of leishmania donovani.[1]

Dr. Wenyon has found, moreover, that the leishmania tropica develops in the intestine of the bed bug. I did not reach this result in my researches on the bed bugs, fleas, and lice which had sucked cultures of the leishmania donovani.[2] Basile was equally unsuccessful in infecting with leishmania humana from cultures either the human and dog fleas or the bed bug.[3] Professor Gabbi in a recent publication[4] concludes that the leishmania donovani does not live at all in the dog and human fleas, either by cultures or by splenic juice. But I cannot agree with Dr. Wenyon when he suggests that the development of the leishmania in mosquitoes cannot be natural, but must be referred probably to the sucked fluid of cultures. In my publication, I think, will be found also the answer to this observation. In this connexion I will now add: 1. If the modifications that the parasite undergoes are to be referred to the nutrient fluid they must be found much more in the pure cultural fluid and not in the gut of the insect, mixed with all the bacterial flora of the gut of the mosquitoes. This does not happen. I have said already that at some time after their introduction a great number of the leishmania lose the flagellates and tend to modify themselves; in the tubes of cultures, on the contrary, the oval oblong forms without flagellates exist only in the very old ones and with little fluid of condensation. 2. In bed-bugs, which also sucked cultures until they swelled, I never found even a trace of the leishmania, although there was in the gut an abundant culture fluid. It must be observed that the experiments on all these insects have been performed with cultures from the same strain. 3. Since it is impossible for the leishmania to develop in a non-sterile substratum it is necessary that the gut of the anopheles out of the cultural fluid be suitable to the development and existence of the leishmania. In the contrary case it would be destroyed in a short time by the gastric juice, by the great number of bacteria and the other forms of parasites so frequent in the intestinal contents of the anopheles.

I have not yet perfect knowledge of the interesting researches made by Dr. Wenyon on the stegomyia fasciata; but if the author has found (by comparing preparations) that the forms which have been found in the insect are in any respect different from those of the sore on which the insect had sucked, how would he interpret these modifications?—I am, Sir, yours faithfully,

Bologna, Nov. 27th, 1911. Professor G. FRANCHINI.

SANATORIUM TREATMENT FOR CHILDREN.

To the Editor of THE LANCET.

SIR,—All of us who are working for the better treatment of surgical tuberculosis in children must welcome the letter from Mr. W. Edmunds in THE LANCET of Dec. 16th.

A circular issued by the Board of Education in March, 1900, states, *inter alia:* "A school authority may also make provision for defective children by means of boarding them out near to special schools or classes or by means of sending them to boarding schools; and for this purpose may either establish boarding schools of its own or utilise on such terms as may be agreed institutions certified for the purpose by the Education Department."

As an example of the good work which can be done on these lines I may cite the residential school maintained by the Manchester Education Committee. This school, founded in 1905, now contains 120 beds, and is able to admit cases of surgical tuberculosis and to treat and educate them for the whole length of time necessary for cure. The work and results of the school may be found in a pamphlet published in 1910. It is only too evident to those who have made any study of the subject that our present means of dealing with cases of surgical tuberculosis in childhood are hopelessly inadequate. Treatment for an indefinite length of time in special institutions is the only possible solution of the problem. By whom is this treatment to be provided?

In spite of the truly admirable work done by a few public-spirited education authorities, I do not think that the real solution of this national question can be expected to lie with the education authority. My reasons for this view are: 1. Very large numbers of cases of surgical tuberculosis occur in the earliest years of childhood. It is especially important to secure treatment for these early cases. They cannot be allowed to wait until they are of age to come within the control of the educational authority. There can be no better comment on the need for treatment of these younger

[1] Rivista Critica di Clinica Medica Anno xii., No. 45, 1911.
[2] Pathologica, No. 68, 1911.
[3] Rendi-conti della R. Accademia dei Lincei, 18 Giugno, 1911
[4] Malaria e Malattie dei Paesi Caldi, Anno ii., No. 10.

cases then the statement of the Registrar-General that of the deaths from this cause nearly half of the victims are under the age of five years. 2. The main object of the education authority must inevitably be to educate the child, and in this way treatment will be made subservient to teaching. Under the present system of grants, quite inadequate as they are to the needs of the work, the local authority cannot afford to maintain any ailing child who is not on the register as an active scholar. 3. Action by local authorities is likely to lead to the building of numerous small scattered institutions probably of unequal efficiency and often of necessity built in climates unsuitable for the treatment of a tuberculous disease. The only efficient means of treatment is by a relatively small number of large institutions situated in the most favoured parts of the country and under the supervision of surgeons who have special experience of this branch of work.

The only authority which can be expected to carry out this work in a sufficiently broad spirit is the State itself. The State proposes to erect sanatoria for the treatment of phthisis. This is well, but the matter cannot rest here. There must be provision made for the treatment of surgical tuberculosis in children before the scheme can be regarded as satisfactory. It is our duty as a profession to show plainly that the provision of sanatoria for consumption is far from offering a complete solution of the problems in the treatment of tuberculosis, and that these children with their special form of the disease cannot be treated in such sanatoria. For this latter reason I think that the use of the word sanatoria is unfortunate when applied to any provision for the better treatment of tuberculous disease of the bones and joints in childhood, and it would conduce to clearness if the word were entirely eliminated from the literature of this special branch of tuberculosis.

I am, Sir, yours faithfully,

Manchester, Dec. 16th, 1911. E. D. TELFORD.

MISS FLORENCE NIGHTINGALE'S LETTERS.

To the Editor of THE LANCET.

SIR,—As executors of the will of the late Miss Florence Nightingale, we shall be glad to receive any letters written by Miss Nightingale, and any other materials relating to her which the owners may be willing to lend us for the purposes of a memoir.

We should respect the wishes of every friend and correspondent of hers who will kindly afford us information, and no letters will be published without the consent of the owners. Papers should be sent by registered post to the executors of the late Miss Florence Nightingale, 31, South End-road, Hampstead, London, N.W., who will be happy to give any further information.

We are, Sir, yours faithfully,

HENRY BONHAM CARTER.
S. SHORE NIGHTINGALE.
L. H. SHORE NIGHTINGALE.
A. H. CLOUGH.

KING EDWARD'S HOSPITAL FUND FOR LONDON AND ST. GEORGE'S HOSPITAL.

To the Editor of THE LANCET.

SIR,—In the report of the meeting of the King Edward's Hospital Fund for London, the following paragraph appeared:—

> Among the institutions which do not appear in this year's list is St. George's Hospital, the Governors having withdrawn their application as the result of the decision of the Fund on the question of the amounts which could properly be paid to the Medical School in respect of the work done for the hospital. The grant of £2000 which was reserved last year lapses, the conditions attached to it by the Council of the Fund not having been fulfilled.

The governors of St. George's Hospital have always endeavoured to work in harmony with the King's Fund, and much regret the difference of opinion upon a matter of principle, which they consider to be of such importance as to justify their refusal to comply with the demands of the Fund. The Governors maintain that no money whatever is paid by the hospital to the Medical School for the purposes of education.

The sum referred to has been expended upon pathological and bacteriological work, done entirely for the patients of the hospital; in other words, the money is spent in giving the patients of St. George's Hospital the benefit of the latest scientific improvements in diagnosis and treatment.

In previous years, when the same money was paid out of a discretionary fund, no objection was made by the King's Fund, but in such a case the accounts of the hospital are fallacious to the extent that the sum paid out of a discretionary fund cannot appear in the final calculation of the cost per bed.

The governors of St. George's Hospital believe that all moneys paid for the benefit of patients should be paid out of the general funds and published in the accounts. Feeling sure that no good can result either to the King's Fund or St. George's Hospital by the public discussion of the questions involved, the whole circumstances of the case are not now entered into, but a statement can be obtained by those who are interested upon application to the secretary.

I am, Sir, yours faithfully,

A. WILLIAM WEST, Chairman and Treasurer.

St. George's Hospital, S.W., Dec. 13th, 1911.

THE VALUE OF THE ALBUMIN REACTION IN TUBERCULOUS SPUTUM.

To the Editor of THE LANCET.

SIR,—With reference to the letter of Mr. H. S. Gettings in THE LANCET of Dec. 9th on the Value of the Albumin Reaction in Sputum, I have made the albumin test on 25 sputa in Dr. Morland's laboratory in Arosa with the following result: positive cases, 21; negative cases, 4. With regard to the 4 negative cases, 1 of these was a case of influenzal pneumonia, the other 3 of pulmonary tuberculosis, long inactive, 2 of which still contained tubercle bacilli in the sputum. Of the 21 positive cases, tubercle bacilli were found in 19, and on a previous occasion in one of the others. The remaining case was also undoubtedly one of pulmonary tuberculosis. These were 25 consecutive specimens of sputum sent in for routine examination. So far, then, a positive reaction has coincided with the presence of active or recently active pulmonary tuberculosis.

One point in the technique deserves notice; where only a trace of albumin is present it is necessary to add a considerable amount of saline to ensure its precipitation on boiling.

I am, Sir, yours faithfully,

M. B. CHRISTOPHERSON.

Arosa, Switzerland, Dec. 14th, 1911.

ONE BELL.

To the Editor of THE LANCET.

SIR,—I note in your otherwise appreciative review of my book, "The Surgeon's Log," in THE LANCET of Dec. 16th, that you cast some polite doubt on the statement that "one bell" is sounded at 11.45 P.M. and 5.45 P.M. The explanation is as follows: "One bell" is sounded a quarter of an hour before every change of "watch." It, therefore, is sounded at a quarter to 12, 4, 8, and in addition at a quarter to 6, this last indicating the approaching advent of the second "dog watch." The object of sounding "one bell" at such times is to remind the quartermaster who is not at the wheel to call the men who have presently to come on duty in the next watch. This warning bell has nothing, therefore, to do with the usual bell signals indicating half hours at sea. There are several other variants from the half-hour rule—as, for instance, the sounding of "seven bells" at 7.20 A.M. and 11.20 A.M.; but as your review does not touch upon these I need not occupy your space in explaining.

I am, Sir, yours faithfully,

Queen's-road, W., Dec. 15th, 1911. J. JOHNSTON ABRAHAM.

DONATIONS AND BEQUESTS.—The Royal Dental Hospital, Leicester-square, has received a donation of £200 from the Worshipful Company of Goldsmiths and 10 guineas from the Worshipful Company of Broderers.—Under the will of the late Mr. William Wright Tasker, of Hull, the testator left £500 each to the Hull Royal Infirmary and the Hull Victoria Hospital for Sick Children.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Policy of the Medical Profession in Scotland.

THE Insurance Act still monopolises the attention of the Scottish medical profession. The Scottish Committee of the British Medical Association met in Glasgow last week and resolved to recommend an effort to work the Act in accordance with the policy of the Association, the Scottish Commissioners to be told that service would not be taken unless the "six cardinal points" were conceded. The important correspondence that continues to find its way into the lay press shows the general feeling of the profession. In a letter to the *Scotsman* of Dec. 13th the Master of Elibank, Mr. Alexander Murray, replies to that paper's leading article on the subject of the Bill. The burden of his complaint is that, with regard to the *Scotsman's* assertion that the provision in the Bill for the free choice of doctor "is rendered of doubtful value" by the proviso in Clause 16, the British Medical Association agreed that the profession could not reasonably complain of arrangements that were inevitable "to meet particular local disputes possibly leading to deadlock." He denies that the Government's arrangement in regard to removal from Friendly Societies' control is "delusive." In regard to the swamping of the doctors on the Local Insurance Committees, he replies that the representation previously given to the doctors on those committees has been increased, and they have been given "the great collateral advantage that a purely medical committee, representative of the profession, must be heard in each area as to the proposed terms of any arrangement." As to the defining of the method and amount of remuneration in the Bill itself, he says that these points could not be settled at present, for "the necessarily experimental data are not available, and conditions of work must vary very considerably in different areas. Dr. Alexander Veitch, in reply to a letter from Mr. Handel Booth, M.P., points out that "payment is not everything. By serving under the Bill we part with our liberty and enter a domain of service ignorant of what will be expected of us, and not knowing what every common workman insists upon knowing—viz., the rate of pay and hours of service." He, in common with other correspondents, points out that a gibe at medical men who fear a loss of income under the Bill comes ill from those whose fellow Members recently voted one another £400 per annum out of the public purse. Dr. William Haig supports the acceptance by Mr. Smith Whitaker of the post of medical Insurance Commissioner on the ground that it is not a post of working under the Bill, but that since there is to be a medical Commissioner it is better to have a friend in such a position than one who might be indifferent or even inimical to the interests of the profession. In the *Scotsman* of Dec. 15th Dr. Ewen J. Maclean, chairman of representative meetings, and Dr. J. A. Macdonald, chairman of Council, of the British Medical Association, reply at length to the letters of Dr. Wm. Craig and Dr. J. Stuart Ross, referred to in my last communication. They state that "all the statements made by Mr. Whitaker which have been criticised were made strictly in accordance with the instructions he had previously received." That the figures as to the number of signatories to the undertaking not to work under the Bill until all the six points were included were not given at the meeting was done by explicit instruction of the committee. They repeat the warning to the profession not to overestimate their strength, and, in regard to Dr. Craig's strictures, publish a letter received by Mr. Smith Whitaker from him a few days after the November Representative meeting in London, in which Dr. Craig states that he spoke then under a misapprehension and in ignorance of the fact that the six points of the Association were still to be enforced with all powers of the Association when and where necessary. They ask what has occurred since Dr. Craig wrote that letter to cause him to revert to his former position. To this Dr. Craig replies on the following day: "It was the acceptance by Mr. Whitaker of the deputy chairmanship of the Insurance Commissioners that caused all my former doubts to recur." He points out that Dr. Maclean, in an oration to the Representatives, said in effect that if any such appointment were offered to him he would spurn it, and his decision would be irrevocable, and yet he (Dr. Maclean) was the first person to recommend Mr. Smith Whitaker to accept. He further accuses Mr. Smith Whitaker of having failed to fulfil a pledge given to him to supply him, in common with other branch secretaries, with a fuller statement and explanation as to the number of signatories to the undertaking which was withheld from the meeting, and asks what, in the light of this and other happenings, one must think. Dr. A. M. Easterbrook, in the same issue, says that in the Lothians at the present moment the undertaking not to accept service under any other conditions than those laid down in the six points is solidly signed, that nearly almost every non-member of the Association is coming in, and that the guarantee fund is now considerable, and he urges continued silent working. Dr. Allan Gray shows that after deducting practically 8*s.* for administration expenses and 6*s.* for druggist, only 25*s.* remains to pay the total average annual sickness cost per man. He shows how hopelessly inadequate the funds will be for any reasonable pay to the doctor in proportion to the amount of work entailed.

Old Royal Infirmary, Glasgow.

An interesting relic of the old Glasgow Royal Infirmary was unearthed last week, when the contractors erecting the new buildings of the institution encountered the foundation-stone of the old structure. There was a company of interested onlookers when the cavity was exposed. The contents included two glass jars, one containing a sample of muslin, which was the commodity principally manufactured in the city in 1794, the date of the laying of the stone. In the other jar were newspapers published in Glasgow at that date, also two copper coins and two silver coins, which were in an excellent state of preservation. The cavity of the stone was covered by a tin plate, which bore the inscription that the stone had been laid by James McDowall, Provost of the city of Glasgow. The first building had accommodation for 152 beds, and the citizens were extremely proud of what they called that "magnificent establishment."

Aberdeen Dispensary and Maternity Hospital.

The adjourned annual meeting of the Aberdeen Dispensary, Maternity Hospital, and Vaccine Institution was held on Dec. 14th. The report of the special committee at its first meeting after appointment on March 7th last was submitted, which recommended that the dispensary should in the future be disjoined from the maternity hospital, that in the working of the dispensary "proprietary and patent medicines should be discontinued, and that every person receiving medicine should be asked to subscribe 2*d.* for each time medicine is supplied to them." In this way the committee is satisfied that with the subscriptions and donations continued as formerly the income of the dispensary would be so much improved as to wipe out any annual deficiency. With reference to the carrying on of the maternity hospital the committee finds that an annual sum of about £900 is required, and towards providing the same the sum of £470 could be obtained from rents, grants, nurses' fees, &c., leaving a deficiency of from £400 to £450, which to keep the hospital going, and failing a subsidy from the University, must be provided from annual grants from bodies, such as the town council, and charitable trusts, and further by largely increased donations from the charitable public. With reference to the debt affecting the institutions, amounting to £4500 without interest, the committee has promises from different sources of sums of £950, £375, and £750, leaving still to be provided a sum of £2400. Lord Provost Maitland, in moving the adoption of the report, said that the position of the maternity hospital was most difficult. Under conditions specified in the report the dispensary could be worked without an annual deficit, but it seemed doubtful whether the former institution could be carried on any longer in its present condition. The special committee had approached the University Court with a request that the Court should in some way assist the maternity hospital funds. It was of importance that the institution should be continued from the point of view of the dispensary and the training of students. They felt that it was right that the University should have an opportunity of considering the position and of deciding whether, rather than have it closed, they should in some way

come to the rescue with a donation or subsidy towards a substantial part of the annual deficiency. If that could be done a special effort towards increased subscriptions could be made, but failing that it was impossible that the maternity hospital should be continued on its present lines. Other developments for the utilisation of its buildings and continuing its work on a somewhat altered basis might be possible; but he did not think that it was possible that it could be carried on on its present charitable basis. With regard to the debt, there were certain sources to which they were looking hopefully towards a further reduction, and perhaps extinction, of the sum, in which case the dispensary, which was the parent, and in some ways the most important part of the work, could be carried on, with the modifications suggested, and the committee of management could very seriously consider the position with regard to the maternity hospital. Some objection was taken to the proposed fee of 2*d*. for medicines, but ultimately the motion was unanimously agreed to. The Lord Provost said it would be well to emphasise that the motion was not inimical towards the maternity hospital.

Diphtheria in Laurencekirk.

At a meeting of the Laurencekirk district committee of the Kincardineshire county council, held in Laurencekirk on Dec. 11th, Dr. W. A. Macnaughton, medical officer of health of the county, reported that since the last meeting there had been 16 notifications of diphtheria, with four deaths, 11 occurring in the parish of Marykirk, three in Fettercairn, and two in Fordoun. It has been agreed to repaint the Marykirk school and to make a new well a little further removed from the centre of infection.

Chalmers Hospital, Banff, and Parish Councils.

On Dec. 17th there was held at Buckie a conference of the nine Banffshire parish councils to take action towards enforcing the Order of the Local Government Board granting them representation on the board of management of the Chalmers Hospital, Banff. It was decided, failing affirmative action by the trustees, to take legal action to enforce the Order.

New Hospital for Buckie.

A new hospital was opened at Buckie on Dec. 14th. The parish of Rathven is one of the most thickly populated in the North of Scotland, consisting largely of a series of fishing villages, and contains nearly a fourth of the total population of the county of Banff. Formerly cases not nursed at home were sent to Aberdeen Infirmary. It has been pointed out that, outside Glasgow, Rathven has been the first parish council to erect a hospital for the treatment of the sick poor. Provision has been made in the hospital for phthisical cases.

Epidemics in Aberdeen.

The virulence of the measles and scarlet fever epidemics remains unabated in Aberdeen. The returns for the week show 58 cases of scarlet fever, 295 of measles, and 106 of whooping-cough. Dr. Matthew Hay, medical officer of health, has published an appeal to the parents of young families and others, in which he enforces the danger of measles to infants and young children, the need of protecting such from infection, and of having medical advice and proper care when the first symptoms appear. During the present epidemic there have been 80 deaths from measles, most of them in children under two to three years. Dr. Hay notes that during the 20 years of compulsory notification of measles there were 13,451 cases among children under three years of age. Of these, about 1 in every 12 died. During the same period there were 26,923 cases above three years of age, with a death-rate of 1 in 120. Thus measles is ten times as fatal among children under three years as among children beyond that age. Dr. Hay states that one of the large pavilions in the City Hospital had been made available for measles patients. This will make possible the reception of measles on a more liberal scale than had hitherto been possible owing to the large number of other kinds of cases under treatment. The pavilion accommodates from 50 to 60 patients, and preference is being given to children under three years of age from the poorer houses. Dr. Hay concludes by an appeal on behalf of the public health committee, primarily to parents of young families, but also to every member of the community, to assist by action and advice in reducing this daily carnage of children. Had we, he says, week by week one-fourth as many deaths among adults from, say, typhus or typhoid, a sense of panic would already be stealing over the town, but being only children their deaths pass almost unnoticed outside the home. The present epidemic of measles is not of a more deadly variety than usual, but the cases are more numerous than they have been for many years, partly owing, no doubt, to the fewness of cases during the last four years.

Dec. 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Insurance Act.

A MEETING of the medical profession was held in the Medical Institute, Belfast, on Dec. 13th, when Mr. J. G. Cooke, of Londonderry, occupied the chair, and there was a large attendance of members of the British Medical Association and others from Belfast and the North of Ireland. Mr. R. J. Johnston, secretary of the branch and of the subcommittee appointed by the branch to look after the Insurance Bill, having given a clear and full statement as to the present position of matters, a discussion followed, in which disapproval was strongly expressed by some of the action of the Central Council in sanctioning Mr. Smith Whitaker's appointment. Others took the view that it was an error of judgment and that the Council should have first consulted the General Representative body before committing themselves to an action of which so many members of the profession were bound to disapprove. After a long discussion it was decided in a series of three resolutions (1) that measures should be taken to insure the unanimity of the profession, which (2) it was thought could be best attained by supporting the British Medical Association, by inducing those who were not members to join it, to sign the Association pledge and to subscribe to the guarantee fund; and (3) to appoint an organising committee for Ulster. Strong disapproval was expressed of the exclusion of Ireland from medical benefits, many fearing that this was expressly done with a view to beating down the fees of the medical men through the numerous new approved societies that are sure to spring up. The cost of the administration of the Insurance Act in Ireland for 1913 is estimated by the actuaries' report as £184,100 (when the machinery of the Act will be in full working order), while the total benefit for Ireland for all contributors will be £590,800; in other words, the cost of administration will be over 30 per cent. of the total benefit; while in Scotland, with nearly the same population, the total benefit in the same year would be £1,323,000, and the total cost of administration there, as well as in Wales and England, will be only 20 per cent. of the benefits.

The Typhoid Fever at Omagh Asylum.

At the monthly meeting of the committee of management of this institution, held on Dec. 13th, the results of the experts' examination into the drainage system were communicated. They showed that the asylum was in a very bad state and in a condition dangerous to health. In the laundry row, where most of the officials who worked or slept were attacked, the drains failed to stand the tests and the whole system was defective. The water-supply from the well was found to be polluted, and the heating and the ventilating systems were in many respects deficient. At present the water-supply of Omagh is being used, but it appears that, as this cannot go on for an indefinite period, the Omagh urban council has requested the asylums authorities to come to terms for the supply of water. It was decided to have all the defective drains relaid, including those around the asylum well which had been contaminated, and also to confer with the urban council as to the terms on which a water-supply could be obtained for the asylum until its own supply should be restored. It must be confessed that the cause of the epidemic of typhoid fever at Omagh Asylum remains still unsolved, and this is the third outbreak. Here we have a colony of people, with their own milk- and water-supply, and all we know is that the drains are defective and that they communicate with and contaminate the water-supply, which comes from a well. No mention is made of the milk, but it is understood that it has not been proved to be affected. In other words, we have the vehicle

for the spread of the disease (defective drains and polluted water), but how did the poison get into them, or is it really in them, or is it mere sewage pollution? What is wanted in the problem is to clear up the question of the presence of typhoid carriers in the asylum, and until this is done the inquiry into the real cause of the continued presence of typhoid fever therein must remain incomplete.

Ulster Medical Society.

A very interesting discussion on acute poliomyelitis at the first clinical meeting of the Ulster Medical Society, held on Dec. 14th in the Medical Institute, Belfast, was introduced by Dr. John McCaw, who dwelt on the symptoms, epidemiology, and treatment of the disease. Professor W. St. Clair Symmers gave an acconnt of the pathological conditions, and of Flexner's work, showing how the disease had been transmitted experimentally from one monkey to another. Dr. B. O'Brien, Local Government Board inspector, mentioned that during his inspections he had heard of cases at Larne, Bangor, Donaghadee, Holywood, Portaferry, Westport, and Lisburn. Dr. John Garman, of Bangor, related the history of three cases in one family at Bangor, and Dr. W. D. Donnan, of Holywood, and others gave their experience of cases. It is a curious fact that so many of the cases occurred at sea-side places and at a time when children were wading more than usual, during a dry season, in the tide.

Medical Inspection of School Children.

A subcommittee of the Ulster Children's Aid Society has published a report on the question of the medical inspection of schools which it has been considering during the past year. In the past summer, with the consent of the National Board and of half a dozen managers of Belfast schools, the committee examined 367 children taken from four different schools, and as a result over 50 per cent. were found to have defective teeth; 17 children had signs of external eye disease; in one school, 18 out of 50 boys had more or less defective vision; in another, 11 children out of 156; 35 per cent. had unclean heads, and 21 per cent. unclean bodies. In one school, out of 156 children only 45 were completely free from defects of nose or throat. Taking the children as a whole, about 35 per cent. had enlarged tonsils. One of the best features revealed by the inspection was that the percentage of healthy children was much higher among those of tender age. The proportion of defective children increases as age increases. Thus, in one school out of 102 children—49 girls and 53 boys—there were examined 11 children between 3 and 5 years, and 5 were completely normal in all respects; of 25 children between 5 and 7 years, 8 were normal; of 43 between 7 and 9 years, 10 were normal; of 23 over 9 years of age, only 3 were normal. So far as can be seen, the teeth begin to deteriorate from fair to bad about the ages 9 to 11, though several children were found with bad teeth at an earlier age. The committee urges the establishment of a dental clinic to be established by private subscription, and it advises the task of providing medical inspection of schools to be undertaken by the National Board for Ireland as a whole, working, so far as possible, with local committees, such as school attendance and children's care committees. It is to be feared that unless school boards are formed with the same popular control of the schools as in England little progress will be made, for at present the denomination question overpowers everything else in primary education in Ireland.

Entertainment by the President of the Ulster Medical Society.

On Tuesday, Dec. 12th, the President of the Ulster Medical Society and Mrs. McKisack gave an entertainment at the Medical Institute, Belfast, to the members of the society and their friends. About 250 were present, and an extremely pleasant evening was spent.

Inspection of Dairies in Rural Districts.

The Hillsborough rural council has unanimously adopted the following resolution:—

> That we protest in the most emphatic manner against the proposal of the Public Health Committee of the Belfast corporation to secure a right, by order from the Local Government Board, for their officials to visit and inspect cowsheds, dairies, &c., in the surrounding rural district.

In other words, if an outbreak of typhoid fever or diphtheria is traced to the milk-supply of a dairy outside the area of Belfast the health authorities of that city are to have no power to verify their suspicions and to trace the origin of the epidemic. It is to be hoped that the Local Government Board will stand firm over this opposition to public health reform.

Dec. 18th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Death of Dr. J. F. W. Ross.

Dr. James F. W. Ross, of Toronto, died on Nov. 18th, two days after an automobile accident. Dr. Ross, driving his own car, was hurrying to a patient outside the city when the accident occurred. He was immediately taken to the residence of Dr. R. L. Langstaff, Richmond Hill, 20 miles north of the city, but in spite of the fact that several leading physicians and surgeons of Toronto were called to attend him death ensued. Dr. Ross was one of the most distinguished surgeons of Canada. He was a past President of the Ontario Medical Association, of the American Association of Obstetricians and Gynecologists, and of the Academy of Medicine, Toronto, in the foundation of which latter institution he took a prominent part. At the time of his death he was professor of gynæcology in the medical department of the University of Toronto and chief of the gynæcological service of the Toronto General Hospital, besides holding several appointments at other hospitals in the city. Prominently identified with all the leading medical associations of the Dominion as well as of the United States, he was a frequent contributor of papers and addresses as well as an ardent participator in the discussions. Thus he enriched Canadian medical literature, and papers from his pen frequently added to the worth of many American medical publications. Of late years Dr. Ross had been largely interested in financial matters, particularly in life insurance, being one of the directors, as well as a large shareholder and medical referee of the Manufacturers' Life Insurance Company. He was born on August 16th, 1857, graduated at the Toronto School of Medicine in 1886, and after studying under Lawson Tait, and at Zürich, began the practice of gynæcology in Toronto in 1891. He was a son of the late Dr. James Ross, of Toronto, a prominent general practitioner and obstetrician in his day.

McGill University: A Successful Financial Campaign.

Realising the necessity of immediate financial aid if McGill University would continue to keep all its departments running, the governors of the institution recently waited on the Provincial Government in Quebec to ask that the annual grant from the province be increased from the petty sum of $3000 to one of $100,000. Although the Government seemed to be in sympathy with the request, it was felt by strong friends of the institution that it would be unwise, if not disastrous, to wait for the proverbially slow movement of governments in such matters, and that it would be much better to rely upon the immediate generosity of the citizens of Montreal and the friends of McGill. So a campaign was inaugurated at once, and during the week ending Nov. 25th committees were set to work to raise a fund of $1,000,000. How splendidly the committees worked and how hearty was the response to their appeals on the part of the citizens is seen in the fact that over $1,500,000 have been subscribed. All good friends of this famous institution will rejoice that the citizens of Montreal so fully realise their responsibility in the matter, and that they have contributed so handsomely. McGill University is a strong asset not only to Montreal but to the Province of Quebec, and indeed to all Canada, and it is earnestly hoped that the Government will further the cause of the institution by early granting the $100,000 subsidy annually needed to put McGill in a splendid financial position. It must be very cheering news to the two munificent benefactors of McGill, Lord Strathcona and Sir William Macdonald, neither of whom was approached in this financial campaign for subscriptions, that there are now many other friends of the institution who can be counted upon, should the need ever arise again, for tangible financial assistance to the University.

McGill University and Work in British Columbia.

The McGill University College of British Columbia was established in that province for the object of setting an

educational standard, and not for the purpose of competing with local colleges for the home students. There seems to be a good deal of misunderstanding in connexion with the prosecution of the work of this College, some asserting that it was a bold undertaking designed to be a feeding ground for the parent institution in Montreal. As a matter of fact McGill University did not force itself into British Columbia; it was invited there. The British Columbia institution is self-sustaining; consequently the charge that its cost of maintenance tended to cripple the home institution financially has no foundation in fact. The McGill interest in education on the Pacific coast of the Dominion began in 1889. At that time the Legislature of British Columbia passed an Act whereby the Vancouver High School became Vancouver College and began to give first-year classes in arts in affiliation with McGill. In 1902 affiliation was extended to second-year work. Desiring something more substantial than mere affiliation, the British Columbian people secured legislation in 1906 establishing the McGill University College of British Columbia, with the same standards as at McGill University in Montreal. It was at this time that the McGill authorities took over the arts work, and then added the first two years in applied science and later the third year in arts. The examinations are conducted by the authorities of McGill. The college is entirely undenominational, its finances are entirely separate from those of McGill University, and so it is no expense to the home institution in any way. There is a branch in Victoria. No doubt this nucleus will ultimately become the starting point for another Canadian university on the Pacific Coast.

Infantile Paralysis in Canada.

Dr. Chas. A. Hodgetts, medical adviser to the Canadian Conservation Commission, read at the last annual meeting of the Canadian Medical Association a paper upon this subject, which is published in the November issue of the *Canadian Medical Association Journal*. Prior to November, 1909, no statistics upon this disease had been collected in Canada—that is, so far as the Dominion generally speaking was concerned. At that time the Conservation Commission sent out 8000 letters to medical practitioners throughout the Dominion, to which replies were received from 316 practitioners. In this manner the histories of 658 cases were reported as occurring between Nov. 1st, 1909, and Oct. 31st, 1910. By provinces these 658 cases were divided as follows: Ontario, 354; Quebec, 187; British Columbia, 48; Alberta, 27; Manitoba, 17; New Brunswick, 12; Saskatchewan, 6; Nova Scotia, 6; Prince Edward Island, 1. In those cases (528) in which the sex was stated 293 were males and 235 females. In 554 cases where age was stated 23 were under the age of 1 year. In the first year of life there were 69; in the second, 105; the third, 66; the fourth, 62; the fifth, 39; the sixth, 34; the seventh, 12; the eighth, 24; the ninth, 10; the tenth, 12: the eleventh, 10; and the twelfth, 10. Two cases occurred at 60 years of age and one at 65. Between the ages of 1 and 5 years, 341, or 64 per cent., were noted. The month of maximum frequency was August, 76 per cent. of the cases occurring in August, September, and October. Under dry and dusty conditions 279 cases occurred. The disease assumed epidemic form in Hamilton, Ont., and North Hatley, Quebec. There were 46 deaths, or 7 per cent., in the 658 cases reported.

The Insane in Ontario.

There are now in the Province of Ontario 6803 insane persons, or about 1 in every 367 of the population. The *Bulletin of the Ontario Hospitals for the Insane* states that most of these might have remained sane and lived useful and happy lives if they had known certain facts and acted accordingly, or if they had received proper guidance in youth. This opens up a wide field for preventive work. The number of insane in the province has increase 61 per cent. since 1890, when those having institutional care numbered 4210. The increase is due to the fact that a larger proportion of the insane are now sent to the provincial hospitals. These institutions in the province are no longer asylums or houses of detention but well-equipped modern hospitals. The cost of caring for these unfortunates last year amounted to $1,043,145.57, while for the past ten years the total cost has amounted to $9,351,094.07. There are at present 648 persons in these institutions who have been patients continuously for the past 20 years.

Notes.

In the new Canadian House of Commons there are 19 medical men in a total membership of 221—1 in 12. One, Dr. T. S. Sproule, has been elected Speaker.—Quebec city is to have a hospital for consumptives. The provincial government has recommended a legislative grant of $3500 per annum for maintenance of the institution, which is to cost $60,000. It will be administered under the medical control of Laval University of that city.—Dr. J. E. Dube, Montreal, president of the Medical Board of Bruchesi Institute, has been awarded a gold medal by the International Society against Tuberculosis for his active work campaigning against the "white plague."—The British Columbia Medical Association at its recent annual meeting elected the following officers for the ensuing year: President, Dr. J. D. Helmcken, Victoria; Treasurer, Dr. C. J. Doherty, New Westminster; Secretary, Dr. A. S. Monro, Vancouver.—The Montreal Maternity Hospital treated during the last hospital year 802 patients. The total expenditure for the year was $28,057.

Toronto, Dec. 8th.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

Popular Distrust of the Medical Profession.

IN an address at the New York Academy of Medicine recently Professor James Ewing dealt with the increasing distrust of the medical profession shown by the general public. He said that grave defects in the standard of medical education had been disclosed. They were freely admitted, but the public had been mystified and a serious suspicion had been aroused in regard to the general competency of medical practitioners. Prevailing public sentiment was out of touch with the medical profession. This was seen in the crude and halting manner in which medical topics were handled by distinguished writers, clergymen, lawyers, statesmen, and public officials. It was also evidenced by the wide extension of Christian Science and the wavering defence which legislatures afforded to the public health against the depredations of irregular and incompetent practitioners. Dr. Ewing thought that the present public distrust rested to a large extent on an inherent defect in the public mind itself. Whether from mental deficiency, superstition, the narrowing influence of the Church, or the educational system of the last centuries, with its incongruous schooling in rigid mathematics and speculative philosophy, the modern mind was unfitted to grasp the delicate and infinite variety of biological processes. He suggested that in the circumstances it might be good policy for the more enlightened public of to-day to analyse the grounds for its disaffection and to make sure that it was not merely repeating the suspicions of the Middle Ages. Dr. Ewing pointed out that most American communities were particularly delinquent in the adoption of measures demonstrated by medical science to be necessary for the protection of the public health. There was, according to the speaker, a general failure in America to appreciate the importance of a high development of sanitary science to a well-ordered community. He also referred to the difficulties under which the prosecution of medical research laboured. He cited the opinion of a university president that the ranks of medical science had to be largely recruited from those who could get along without earning a decent income. This was the tacit policy of all American medical schools. The results were that the material resources for medical science in America were greatly inferior to those available in Germany and France.

New Regulations for Medical Practice in Canal Zone.

President Taft has given an order recently requiring all persons, other than United States Government medical officers, who desire to practise medicine on the Isthmus of Panama to obtain a licence from the Board of Health of the Canal Zone.

Proposed New Medical Buildings for Columbia University.

In the annual report of the President of Columbia University just issued Dr. Butler asks for $6,000,000 (£1,200,000) to build and equip a new medical building for the College of Physicians and Surgeons of New York,

the medical department of Columbia University. By an agreement between the Presbyterian Hospital, New York, and the College of Physicians and Surgeons, the latter has obtained the right to use that hospital for teaching and research. In return Columbia University is to pay the cost of the scientific and educational side of the work, of all equipment for the laboratories, and of maintaining those parts of the hospital plant that are used chiefly for scientific and educational work.

Further Factory Legislation Needed.

Mr. Louis B. Schram, President of the New York Civic Federation, has been pointing out the need for better laws in New York State to regulate the safety of factories. Giving evidence before the Factory Investigation Commission, Dr. Woods Hutchinson said that his visits to several factories during the strike of the shirt-waist makers had convinced him that the factories were conducive to ill-health. Bad air, poor light, overcrowded work-rooms, and inadequate exits were found in every factory visited. Alcoholism as a factor in causing accidents to workmen was also referred to. It was decided by the commission that the director of the Museum of Safety should prepare statistics and engage lecturers on this subject.

Bad Condition of Bakeries in New York.

Dr. E. J. Lederle, commissioner of health for New York City, in giving evidence before the Factory Investigation Commission recently, said that he had investigated many bakeries in New York City, and had found conditions very bad. Drastic remedies were called for to better conditions.

Campaign against Infantile Paralysis.

The New York Board of Health has taken steps to endeavour to abate the prevalence of acute poliomyelitis by assigning medical inspectors to all orthopædic hospitals to insure complete reports of cases therein treated. Isolation of all cases has been suggested, and the keeping other children of affected families from school. Circulars will be issued to every family in which a case occurs, giving information as to the disease and its treatment, and a minimum quarantine period will be established. Bedding will be disinfected, and houses in which a case occurs will be either renovated or fumigated. A circular calling attention to these requirements will be sent to all medical men in New York, and in future they will be required to report promptly to the health board all cases they are called on to treat.

Schools in Chicago to Teach "Little Mothers."

In future one room in each public school building in Chicago is to be set apart for the instruction of girls in the care of infants. The Chicago Board of Health will supervise the work and will furnish the equipment.

Dec. 11th.

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

A Curious Government Commission.

THE patent laws of the Union evidently require revision—at any rate, they should be administered in a sensible manner by the Minister of Justice. In Cape Colony patents can be granted for a period of 14 years, and can be renewed if it is proved to the satisfaction of the Governor General in Council that the patentee has not received sufficient remuneration for his invention. There are a number of conditions to be complied with before a patent can be granted. Besides purely formal conditions it is necessary that an article, in connexion with which application for patent rights is made, should be described in the specification in a sufficiently clear and distinct manner to enable it to be reproduced from the description alone by anyone trained in the particular business, trade, or calling; also that it should be original and have necessitated some ingenuity, skill, and industry for its production; and that if granted so long as the patent right lasts it should not vary in any essential detail from the specification. Patents for quack medicines and alleged remedies have been granted indiscriminately throughout South Africa in the past. It would seem that the patenting of a quack remedy materially assists in its sale, possibly because it is regarded by the public as an article which has received the approval of the Government. At any rate, a patentee whose patent was about to expire, has endeavoured to induce the Government to sanction its renewal. The Government not refusing to consider the application, the patentee briefed a barrister to appear on his behalf in connexion with a commission. The members of the Commission consisted of two judges of the Supreme Court, a King's Councillor, a medical man, and an analytical chemist, and these gentlemen, with the exception of one of the judges, who was unable to attend, had to occupy a day in hearing the application, at no small expense to the taxpayer. The articles covered by the patent consist, according to the specification, of one for "outward cancer" and one for "inward cancer," the former being applied externally and the latter being administered by the mouth. The ingredients of the remedies are specified in each case under two headings, "principal" and "secondary," the latter being added "according to circumstances." The "principal" ingredients to the alleged remedy for "outward cancer" are specified as consisting of alum, borax, lime, lard, and vaseline; the "secondary" ones as zinc sulphate, potassium permanganate, raw linseed oil, sugar candy, sulphur, and "plumbi-lion" ointment. In the "inward cancer" cure there are given as the "principal" ingredients white arsenic, borax, and conium, and as the "secondary" ingredients zinc sulphate, potassium permanganate, sugar candy, hypericum perforatum, and "anti-cancerosa." The Cape Province Medical Council, represented by its legal adviser, opposed the application on the grounds that no particular ability or industry was disclosed, that no benefit had been conferred on the public, and that the invention was of no practical utility, but, on the contrary, might be hurtful. The applicant gave evidence in support of the application and was somewhat severely handled by the opposing barrister and by members of the Commission. He admitted that he was in the habit of rubbing in the ointment in cases of "internal" cancer and of giving the mixture when it was "external"; also that no specific quantities of the different drugs were adhered to in manufacturing the preparations. He was unable to say what "plumbi-lion ointment" or "anti-cancerosa" consisted of, or what preparation of conium or hypericum perforatum he used. He, however, pleaded that he had cured animals and human beings, that it was of much benefit to the country, that most of his patients were treated gratuitously, and that he had never made more than £100 per annum out of the patent. Mr. Justice Hopley remarked that he did not seem to have been selling a patent at all, but appeared to have been prescribing for individual cases, and that he was at a loss to understand how the original patent was ever granted. The applicant's evidence was remarkable in several respects. Thus, he at first denied he had ever been convicted for contravening the Medical and Pharmacy Acts, but subsequently admitted having been fined, though, so he stated, he did not know what for, as the proceedings of the court had been held in English, and he was not conversant with that language. The decision of the Governor-General in Council will depend upon the report made by the Commission.

That such a commission should have been appointed at any rate inaugurates a new policy, and shows that the Government does not intend granting patents for quack remedies as readily as has been the case in the past, without at least an inquiry. It is doubtful whether in any country patent and proprietary medicines are granted such facilities as in South Africa. The trade in such articles is practically unhampered by legislation and is carried on under no supervision whatsoever. The public would, I think, be surprised if an analysis of some of these remedies was made, and the results published. Many of the remedies are so-called "Dutch medicines," of which the principal ingredient in some cases is some form of alcohol; and these are freely used in many of the back-country districts, particularly for infantile ailments. It is very necessary that legislation should be introduced to prohibit the sale of at least such remedies as are pronounced by competent authorities to be harmful or injurious to health, but there does not seem much prospect of this in the present state of public indifference.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Sanitary Congress at Bombay.

AN official Sanitary Congress at Bombay was opened on Nov. 14th last by the Hon. Mr. S. H. Butler, at which 28 delegates attended. Mr. Butler welcomed the delegates on behalf of the Indian Government, and thanked the local administrators for the presence of the delegates. The conference, he said, gave an opportunity for zealous workers in different parts of India for comparing experience, exchanging ideas, and above all, setting up that energising friction of mind with mind, the want of which most men toiling in isolation feel at times as a burden well-nigh intolerable. He hoped this would be the first of a series of such conferences. After referring to the various topics on the agenda of the conference, the Honourable Member for Education and Sanitation said the basis of all sanitary achievement in India must be a knowledge of the people and the conditions under which they live, their prejudices, their habits, surroundings, and financial means. This was emphasised in the memoradum placed on the table of the Legislative Council at its last meeting by Surgeon-General C. P. Lukis, to whose ability Mr. Butler paid a tribute. Ardent spirits, he said, who may think that sanitary measures possible and effective in the West must be possible and effective in India, will flap their wings in vain, and set back the cause which claims their laudable enthusiasm. (It is only fair for your correspondent to add here to this remark that such a statement does not apply to the various sanitary commissioners and health officers in India, whose special qualifications and experience of Indian conditions are sufficient guides to them in their various recommendations. Mr. Butler believed in the slow and sure results of education being the forerunner of sanitation. To-day the forefront of a sanitary programme must be (1) a reasoned account of the conditions and circumstances which affect mortality and the increase and decrease of populations; and (2) a study of the relative effects of various diseases, of personal environment, and of the social and economic conditions in the different parts of the Indian Empire. "We have (he said) to work out our own sanitary salvation. We have to study the epidemiology and endemiology of our communicable diseases, the so-called 'tropical diseases'—plague, malaria, cholera, and dysentery—in order that, having ascertained the actual sources and modes of conveyance, we may determine scientifically the particular methods requisite for their avoidance, prevention, and suppression, and that we may apply with precision those methods which it is possible and politic to adopt, and we cannot do this without the assistance and coöperation of Indians themselves. In this harnessing of the science of the West to the varying conditions and circumstances of India, we must keep our standards high." For many years the Government has built up a body of investigators and specialists who are second to none in Europe, and of these he instanced Sir Ronald Ross and Sir David Semple. He referred to tuberculosis, which Dr. J. A. Turner, health officer of Bombay, had shown to cause a mortality considerably higher in Calcutta and Bombay than in cities like Glasgow and Birmingham. The question of the milk-supply was therefore of urgent importance, and he was glad to see a special paper was to be read on this subject. Two officers of the Indian Medical Service, Major E. D. W. Greig and Captain F. P. Mackie, had been deputed to study sleeping sickness, and a monograph by the latter officer was now under publication. To prevent the introduction of yellow fever into India Major S. P. James, I.M.S., had to visit various endemic areas to study methods of prevention. Great results are expected from the recently constituted Indian Research Fund, the first meeting of the governing body of the fund being held on Nov. 15th. The nucleus of the fund is 5 lakhs of rupees, granted by the Government of India, to which contributions are expected from the public. The Government of India last year assisted provincial revenues by a crore of rupees, of which 50 lakhs went to the aid of the Bombay Improvement Trust. He specially brought to the notice of the delegates the good results obtained in Frasertown (Bangalore), which still continues plague proof, and he asked, Is it an impracticable dream to construct a model town or quarter of the town in each province, with good water-supply, efficient drainage, rat-proof and mosquito-proof houses, and an adequate sanitary staff as a measure of demonstration and education? Though the difficulties were many, and ignorance and hostility of the masses were still fundamental obstacles, yet, he said, a thousand difficulties need not make a single doubt. The more enlightened minds of India have awakened to the importance of sanitation, and he had no doubt the delegates would go forward with intrepid confidence in the ability of science to create an environment in which man's higher aspirations can be fulfilled.

A resolution was passed expressing regret at the death of Colonel J. T. W. Leslie, I.M.S., late Sanitary Commissioner with the Government of India. Schemes of urban sanitation were then discussed. The subject of opening up congested areas followed. The action taken in Madras of experimenting with construction of model houses was explained by Mr. Hutton. Mr. Orr and Mr. Turner dealt with the plans under consideration in Bombay. Major W. W. Clemesha, I.M.S., read a paper on Septic Tanks, and advocated their introduction. Mr. Hutton read a paper on Water-supply and Drainage in Madras. Captain W. A. Justice, I.M.S., read a paper on Rural Sanitation and Major E. Wilkinson, I.M.S., a paper on Milk-supply and Vital Statistics. The subject of a Food and Drugs Act was also discussed.

Lahore.

Sanitation in Lahore is making great progress. A special subcommittee was recently appointed by the municipality to consider the sanitation of the city. Of 14 recommendations by the health officer 10 were agreed to. The Government of India is likely to give a grant to the sewerage scheme, and in connexion with this Surgeon-General C. P. Lukis, I.M.S., and Major E. Wilkinson, I.M.S., went round the city and various parts of the civil station with the health officer (Dr. A. G. Newell), with whom was the new municipal engineer (Mr. Longdin). The scheme is on the Shone system and will cost 15 lakhs, but is likely to be somewhat modified. A tuberculin dispensary has been advocated by the health officer. Small-pox has broken out.

Calcutta.

The Municipal Act is to be altered. A tuberculin dispensary, advocated by the health officer (Dr. T. F. Pearse), has been deferred for a year. Cholera has again appeared.

Cawnpore.

The municipality is going to purify its water-supply on the Peuch-Chabal system.

Delhi.

Unfortunately small-pox has broken out and is now counting 20 deaths a day. A special staff has been engaged. The sanitary arrangements in connexion with the Durbar are lavish.

Rawal Pindi.

A sewerage scheme is likely to be aided by a grant from the Government of India.

Nov. 20th.

Obituary.

EDMOND FAURIEL TREVELYAN, M.D. LOND., F.R.C.P. LOND.

WE have already recorded, with great regret, the death of Dr. E. F. Trevelyan, of Leeds, which took place in that city on Dec. 11th.

Dr. Trevelyan, who was the son of a former vicar of St. Paul's, Warwick, was born in that city in 1859. He received his medical education at St. Bartholomew's Hospital, and in 1885 took his B.Sc. at London University, becoming a Member of the Royal College of Surgeons of England in the same year. In 1886 he took the M.B. of London with honours at both the Intermediate and Degree Examinations, and in 1887 proceeded to the degree of M.D. He spent some time after graduation in study at Vienna and Berlin. Having held the post of house physician at the Seamen's Hospital, Greenwich, in 1887 he settled in practice at Leeds, where the whole of his subsequent professional life was passed. He became a Member of the Royal College of Physicians in 1893 and a Fellow in 1901. He was appointed in 1894 professor of pathology at the Leeds Medical School, at that time a department of the Yorkshire College, then affiliated to

Victoria University, but at the present time the medical department of the University of Leeds. The energy he put into his work when occupying this chair was remarkable. Under his guidance that department developed into one of great importance, and it was a constant source of wonder how he managed to perform the duties with such zeal and energy, burdened as he was with a multitude of other activities. When he finally became unable to cope with the duties he retired in favour of a whole-time professor, but he did not therefore rest, for he became professor of therapeutics at the University of Leeds, a post which he resigned only about two years ago.

Early in his career Dr. Trevelyan joined the honorary staff of the Leeds Public Dispensary, and at the time of his death he was its senior honorary physician. In 1894 he was elected assistant physician to the Leeds General Infirmary, and full physician in 1904, retaining the latter post also until the time of his death. Among other appointments he held those of physician to out-patients and honorary pathologist at the Leeds General Infirmary, and senior physician to the Leeds Sanatorium for Consumption.

It might be thought that an extensive consulting practice, conjoined with university teaching posts and hospital appointments, would yield a sufficient scope for the activities of any man. Dr. Trevelyan, however, was not content to limit his horizon to strictly professional affairs, and he interested himself greatly in educational, philanthropic, civic, and military matters. He was an earnest and active supporter of the Leeds Institute of Science, Art, and Literature, of which he was a vice-president as well as chairman of its committee. He had been closely identified with the educational work of the institute previously to the taking over of its schools and classes by the Leeds Education Committee.

In 1903 Dr. Trevelyan delivered the Bradshaw lecture at the Royal College of Physicians of London, taking for his subject Some Observations on Tuberculosis of the Nervous System. He was the author of the article on Acromegaly in Allbutt and Rolleston's "System," and at one time contributed considerably to medical literature, among others THE LANCET, *Brain*, and *International Clinics*.

When in 1899 Colonel Harding, then Lord Mayor of Leeds, called a meeting to organise the local fight against tuberculosis, Dr. Trevelyan became one of the most ardent supporters of the movement. The Leeds Association for the Prevention and Cure of Tuberculosis was the outcome of this meeting, and Dr. Trevelyan added to his other numerous duties that of honorary physician, and later honorary secretary, of the association. Of that movement he was the life and soul, and the city of Leeds owes to him on that account a deep debt of gratitude. He was, moreover, a city magistrate, and on the day of his death a touching tribute was paid from the bench at the city police court by his colleague, Sir George Cockburn, who presided.

On the inauguration of the Territorial movement Dr. Trevelyan was persuaded to take the command of the 2nd Northern General Hospital (Royal Army Medical Corps). It was during his service at the hospital camp at Aldershot, in August last, that the early symptoms of his illness first made their appearance. He was removed to his home at Leeds, but was never able to resume practice. About seven weeks ago he underwent an operation, and another some five weeks ago. Notwithstanding the success of the operations, however, he succumbed to an attack of heart failure on Dec. 11th at the comparatively early age of 52. His funeral took place on Dec. 13th in the Lawnswood cemetery, Leeds, and was attended by deputations from the Leeds Association for the Prevention and Cure of Tuberculosis, the General Infirmary, the Leeds Public Dispensary, the Leeds Institute of Science, Art, and Literature, the 2nd Great Northern General Hospital (R.A.M.C.), the West Riding of Yorkshire Territorial Association, and the West Riding Field Ambulance.

Dr. Trevelyan was not married, his nearest surviving relatives being his sisters, Miss Trevelyan and Mrs. Hicks (wife of the Bishop of Lincoln), and a niece and nephew.

A correspondent writes: "Dr. Edmond F. Trevelyan was a man who will be missed by many and sorely missed by a few. It may have been said of him that he had not the genius for making friends, but this does not put the matter correctly. He made friends slowly, but once made they were good ones, and the friendships lasted. The explanation of this lay in his temperament. He was by no means optimistic; indeed, he took life very seriously, and only to his intimate friends was the nod of recognition brightened by a smile which seemed at once to alter the apparent nature of the man and give a glimpse of a genial and kindly soul which the majority of his acquaintances never suspected him to possess. The keynotes of his character were industry, earnestness, persistency, and a readiness to accept additional responsibilities without counting the cost. Trevelyan had so many irons in the fire that he should have been very methodical in his arrangements. But this was not the case, and the naturally ensuing difficulties were a source sometimes of vexation, but more often of amusement, to those who were associated intimately with him in work. There was one fact in his career which he felt keenly. Notwithstanding his length of service in charge of out-patients at the infirmary he never obtained the ward appointment. This was the main reason why after ten years' service an assistant physician at the Leeds General Infirmary is now elected physican to the infirmary in charge of out-patients. This hardship, however, had an indirect effect upon Trevelyan's outlook and aspirations, gradually leading him to regard the study of tuberculosis as his chief life-work and not as subsidiary to his work at the infirmary. Trevelyan's persistency was very noticeable in controversy. There was no compromise about him. Only when he saw himself hopelessly beaten would he agree to accept what would probably not have been conceded but for his dogged opposition. His attitude in controversial matters, however, was never suffered to interrupt or cloud his relations with his colleagues; and after the fight was over he was ever ready to smoke the 'pipe of peace.' Trevelyan's manner of speaking was dogmatic and very impressive, and he had the just reputation of being a sound and lucid teacher of general medicine. He was, as I have tried to indicate, a man of marked character and of very definite peculiarities. The latter struck the observer first, while the character was capable of being appreciated only when the man was thoroughly known. That he was honourable in every thought and action and always perfectly straight his colleagues knew, and on the development of his final illness, without exception, they were greatly concerned at the sufferings of one who had earned their respect by his sterling qualities and their goodwill by his kindliness of heart."

GEORGE HUBERT MAPLETON, M.B., C.M. EDIN.

Dr. George Hubert Mapleton died at his residence, "Goldwell," Goudhurst, Kent, on Sunday, Dec. 10th, aged 53 years, from septic laryngitis after a very short illness. He went to bed on Friday and died on Sunday. Tracheotomy was performed very early on the morning of that day. This gave him considerable relief, but he passed away in his sleep in the afternoon. He will be greatly regretted by many friends and patients, and not the least amongst the poor. He was attended during his last illness by his neighbour, Dr. D'Arcy Harvey, in consultation with Dr. E. L. Adeney and Dr. T. C. Guthrie, of Tunbridge Wells.

Dr. Mapleton was born in 1858 at Saxby, Leicestershire, from which place his father, the Rev. Reginald John Mapleton, became the incumbent of St. Columba's, Kilmartin, Argyllshire, afterwards being appointed Dean of Argyll and The Isles. Dean Mapleton was a man of great literary ability and a noted archæologist, and was locally known as "The Bishop." Dr. Mapleton, after studying at "Glenalmond," proceeded to the University of Edinburgh, where he graduated M.B. and C.M. in 1880, afterwards proceeding to Vienna for special medical study. He held the position of house physician at the Royal Infirmary at Edinburgh and at Glasgow. After a short period of medical service at sea he became Government medical officer at Montserrat and afterwards at St. Kitts, West Indies. At the latter place he was police surgeon and assistant surgeon to the Cunningham Hospital. After 14 years of medical practice in the West Indies he went to Goudhurst in 1896, practising there until his death. There he held almost all the public appointments and clubs, being medical officer and public vaccinator for the Goudhurst district. He married Harriet Burley Johnson, eldest daughter of Dr. Burdett Johnson, of Montserrat. She has been left a widow with three sons and one daughter. Dr. Mapleton took a keen interest in his profession, and his abilities as surgeon and physician were

much appreciated. He gave his best advice and attention to many cases where there was little, if any, prospect of pecuniary recompense. He had two brothers in the Army Medical Service, one of whom was in charge of the Intombi camp for women and children during the siege of Ladysmith.

THE NATIONAL INSURANCE ACT.

APPOINTMENTS UNDER THE INSURANCE COMMISSION.

Sir Robert Morant, Chairman-Designate of the Insurance Commission for England, has issued under date Dec. 14th, 1911, a notice referring to the appointment of staff under the Act, premising that the notice does not refer to Unemployment Insurance. Sir Robert Morant says:—

"No announcements can yet be made as to the number or character of the posts that are to be filled in appointing the staff of the Commission. Various questions have to be decided as to the kinds of work first to be undertaken and the particular nature of the experience and qualifications most likely to be useful for carrying out these different departments of the work effectively. The Commission will need time for the careful consideration of these matters, and also for consulting with the Advisory Committee to be set up under Clause 57 of the Bill, in regard to the best ways of dealing with the main elements of the problem. As their deliberations proceed, and the Commission find any particular posts to be necessary for which applications from outside the Civil Service are needed, announcements will be made from time to time in the press. The Civil Service Commission have promised their assistance and coöperation to the fullest extent in regard to the selection of staff; and in these and other ways every possible step will be taken to secure that no appointments shall be made, whether from within or without the Civil Service, on any grounds other than fitness for the duties to be undertaken in each case.

Meanwhile the following points should be noted by all persons desirous of seeking employment under the Commissioners:—

A. No application will be considered unless it specifies the kind of post sought for and the special qualifications for that post possessed by the applicant, and application should be addressed solely to the offices of the Insurance Commission, Whitehall, S.W.—marked on the envelope 'Applications.'

B. Under no circumstances should applications, or correspondence in connexion with applications, be sent to the private address of any of the Commissioners.

C. No persons should apply for posts under the Insurance Commission unless qualified in a high degree by special knowledge and experience appropriate to the positions for which application is made.

D. The Commission cannot undertake to acknowledge or reply to any applications.

E. No interviews can be accorded to, or in respect of, applicants for posts, unless previously arranged by correspondence.

F. Any attempts made by candidates seeking posts, of whatever nature or grade, under or in connexion with the Insurance Commission, to enlist support for their applications on political grounds or for political purposes, whether through Members of Parliament or in any other ways, will be regarded as disqualifying such candidates for consideration or for employment by the Commission in any form."

THE PROTEST MEETING AT MANCHESTER.

A large and enthusiastic meeting of members of the medical profession was held in the Midland Hall, Manchester, on Thursday afternoon, Dec. 14th, under the chairmanship of Mr. G. A. Wright. The hall was crowded and the numbers were estimated at 2000. Among those present on the platform were: Sir James Barr (President-elect of the British Medical Association), Dr. T. R. Bradshaw (Liverpool), Dr. E. S. Reynolds, Mr. A. H. Burgess, Mr. W. Coates, C.B. (Manchester), Dr. R. C. Brown (Preston), Dr. J. A. W. Watts (Hyde), Mr. J. M. Ferguson (Burnley), Professor A. M. Paterson, Dr. T. B. Grimsdale (Liverpool), Professor Judson Bury, Professor W. Thorburn, Dr. A. Donald, and Dr. T. A. Helme (Manchester). Mr. P. C. Raiment represented the executive of the proposed meeting in London at the Queen's Hall. Deputations also attended from Shropshire, Mid-Wales, Hereford, Winchester, Folkestone, Dover, and Chatham.

Dr. J. S. PROWSE, the secretary of the movement, stated that letters of support from 200 to 300 medical men throughout the country had been received, and that 12 divisions of the British Medical Association and five other medical societies had approved their attitude.

The CHAIRMAN said that the former meeting at Manchester decided that unless all the essential conditions were guaranteed the profession would not be able to undertake the work proposed by the Bill. Now that the Bill had passed the House of Commons without sufficient guarantees, and the warning had been disregarded, they were there to say that they would not do the work till the Act was amended and all the essentials were provided. This was no change of front as far as they were concerned. It was the original position taken up by the British Medical Association. They would not neglect sick people or refuse to work under a good Insurance Act. The present Bill, bad as it was, if it were fully amended, would be one under which the profession would work, but it must be fully amended. They refused to work this Act as it stood. Some difficulty had arisen from the action of the Council of the British Medical Association. The real difference between them was that while the Council of the Association was prepared to put its trust in things that might happen, most of the profession preferred not to give a blank cheque to Mr. Lloyd George. Their confidence in the discretion of their representatives was shaken. It was idle to say that the demands of the profession had been acceded to or that they had any security. They would see with deep regret the disorganisation of the British Medical Association. They were not hostile to it, or even in rivalry with it, but they felt that a grave and vital emergency had arisen, and that since their first line of defence had wavered seriously they must bring up the reserves to prevent their position from being rushed. They, therefore, proposed to ask all those in the profession who were not organised to join in with existing organisations till the crisis was past. They hoped that then with increased strength both in numbers and *morale* the British Medical Association might go on with its work.

Dr. J. SACKVILLE MARTIN (Leigh) proposed the first resolution:—

> That this meeting of the medical profession, in pursuance of the resolution passed unanimously on Nov. 18th and generally adopted throughout the country, now recognises that the only satisfactory method of meeting the situation created by the Government is for the members of the profession to refuse to form a panel under the Bill or to undertake any duties which the Bill proposes to assign to them.

Dr. Martin said that the policy of the Council did not reflect the opinions expressed at meetings of the members throughout the country. The Council proposed, instead of one broad fight, to split it up into many small sectional fights (cries of dissent and approval). Under this plan each division would primarily have to fight its own battle, and afterwards it might be assisted by the strength of the Association. That policy was disastrous; it practically committed them to working the Bill. They would find themselves haggling over prices in different districts, and there would be different prices. Where they lost in one division that division would be held up as an example to others. He denied that the organisation was intended to cause a split in the profession. There was a split, but it did not begin that day. When the Council recommended Mr. Smith Whitaker to accept the post of Commissioner the Association was split from top to bottom. They did not wish to widen the split, but to see if it could be repaired.

Dr. FERGUSON, in seconding the resolution, went over the six cardinal points and declared that none of them had been guaranteed. He said that if the profession would unite they had the necessary machinery in the British Medical Association, and that they could make it work as they wished.

Dr. PERCY R. COOPER proposed as a rider to the resolution the words: "Unless and until the cardinal points are fully agreed to." This was not accepted by the meeting.

Dr. HELME supported the resolution in a vigorous speech which roused the meeting to a high pitch of enthusiasm. He dissected the recent assurance of the Council of the British Medical Association that "there is no legal

barrier against the profession securing the fulfilment of its entire policy." He said that the whole thing bristled with legal and practical barriers which were unsurmountable. Medical men would be helpless once they formed a panel. If they undertook to work the Bill as it then stood in law they would have to take whatever was given them. The Commissioners could do anything they liked, even take away free choice, except increase the total amount available for payment of medical services. Dr. Helme contrasted the two alternative courses. He declared that the policy of the Association—to negotiate and procrastinate—was plunging the profession headlong into disunion. But there was still a chance for all to unite honourably by adopting the other plan, "to at once decline to form a panel or to take office under the Bill as it now stands. To tell the Commissioners at once that the only way for them to work the medical benefit is to give that benefit as a contribution to the insured. In this way we shall remain an independent profession." He claimed that this policy did not wreck the Bill, but used it. They offered to work the Bill on their own terms, for which there was provision already made in the Bill. He did not wish to wreck either the Association or the Bill, but to remove from each an obnoxious element.

At this point Dr. J. H. TAYLOR, of Salford, a member of the Association's Council, with the chairman's sanction attempted to address the meeting in defence of the Council's action and policy, but his presence was strongly objected to, and after much hostile interruption he was told by the chairman that his time was up. Dr. Taylor, amidst great disturbance, appealed to the profession to keep its head. He came before them as a member of that much-maligned and grossly abused body the Council, and he came without a word of apology. His final words were: "We are willing to work as one body, if you will only let us."

The resolution was then put to the meeting, and was carried by an immense majority, only about six members dissenting.

Mr. COATES then moved the second resolution:—

That in the opinion of this meeting it is advisable to form at once a National Medical Union to deal immediately with the conditions arising out of the National Insurance Bill, and to strengthen the hands of the members of the British Medical Association and all other societies and committees now engaged in safeguarding the interests of the medical profession.

Mr. Coates said that the union was required because the will of the medical profession had not been allowed to prevail. They left this matter in the hands of the Council of the British Medical Association, who asked for a mandate which was ungrudgingly given and asked for a fund which was generously subscribed. The "cardinal points" which the Council had been asked to secure in the Bill were as distant as Rome, as extinct as the dodo. The Council had been caught in a net: the subtlety of the spider had been too great for them. The new union must be used to purge them of the Council. It should be an emergency organisation of the whole profession of Great Britain for coördination of the members and non-members of the British Medical Association, for voicing the attitude of the profession towards the Bill as it now stood for enactment, and for facilitating an organised refusal of service under the Bill. The union would remain in existence so long as any question arising under the Act remained in dispute. It should be supplementary to, and should work with, the members of the British Medical Association.

Dr. WATTS seconded. He said that the profession must protect itself because it had been treated with cynical disregard from the beginning. By passing the Bill the Government had challenged them; their object in forming the union was to accept the challenge. Dr. Watts also disclaimed any desire to wreck any existing association. He was afraid that the Council of the British Medical Association had been obsessed by the Chancellor's personality.

Dr. D. S. DAVIES (Bristol) wished to move an amendment, but this was ruled out of order. He said he could not understand how unity could be promoted by the formation of another union.

Mr. RAIMENT (London) invited all those present who could do so to attend the meeting at Queen's Hall on Dec. 19th.

Mr. PINDER (Salford), Dr. PATTERSON (Newbury, Berks), Dr. J. STUART ROSS (Edinburgh), and Mr. C. COURTENAY LORD (Gillingham, Kent) also spoke warmly in favour of the resolution, which was then put to the vote and carried by the same overwhelming majority as the first resolution.

Sir JAMES BARR, in moving the appointment of a preliminary committee to set the new union in motion, had a somewhat mixed reception, but he pacified his audience to some extent by hearty abuse of the Bill and by a tribute to the chairman.

The meeting altogether lasted about two hours. In the confusion of departure the business of nominating and appointing the executive committee was carried out under difficulties, but those who remained seemed satisfied that their interests would be represented by those names which had been chosen.

THE PROTEST MEETING AT BIRMINGHAM.

At much shorter notice than the mass meeting at Manchester of the previous day, a large protest meeting against the treatment of medical interests under the Insurance Bill was held at the Midland Institute, Birmingham, on Friday, Dec. 15th, under the chairmanship of Mr. Frank Marsh. About 700 medical men from Birmingham and the neighbouring counties attended, and if the temper of the meeting did not exactly reflect that of the Lancashire and Cheshire audience the resolutions carried by a large majority differed little in substance or in spirit from those passed the day before. The three resolutions which were proposed from the chair were as follows:—

1. That in the opinion of this meeting of the medical profession of Birmingham and the Midland Counties the National Insurance Bill does not satisfactorily meet the just demands of the medical profession as defined in the "six cardinal points" formulated by the British Medical Association.
2. That in the opinion of this meeting the Bill will create a condition of affairs detrimental to the public interest as well as to that of the medical profession.
3. That in the opinion of this meeting the only satisfactory method of meeting the situation created by the Government is for the profession to decline to undertake any duties which the Bill proposes to assign to them.

As at Manchester, an amendment proposing that the medical profession should decline to work under the Act "unless the six cardinal points were conceded" was rejected, but this suggestion to continue the policy of the British Medical Association received more support at Birmingham than at Manchester, although the large majority voted against it.

Both the CHAIRMAN and the seconder, Dr. HOYLE WHAITE (Birmingham) disclaimed antagonism to the Association, and denied that there was any wish to cause a direct split amongst its members. Their object was to gauge the true attitude of the profession towards the Bill. They advised that the profession should make a united stand and resolutely declare that it would have nothing more to do with the Bill.

The CHAIRMAN said that any division in their ranks now would put an end to all effective opposition to the working of the Act and would simply play into the Chancellor's hand, who had already thrown a bombshell among them by a recent appointment, and had created the false impression in the public mind that the Bill in its medical aspects was acceptable to the profession. He (Mr. Marsh) rejected the idea that the Bill as enacted satisfied the six-fold requirements laid down by the Association. If they accepted service under such conditions as were imposed upon them their independence was gone, and the result would be detrimental alike to the public interest and to the interest of the medical profession. He concluded by referring to the enormous depreciation in the saleable value of working-class practices which had already occurred even before the Bill became law.

Dr. WHAITE stigmatised the Chancellor's proposal that the profession should make the best use it could of the chance he had given it of collective bargaining as an insult and an injustice.

Dr. MILNER M. MOORE, Mr. L. J. STRETTON, Dr. GARMAN, and Professor ROBERT SAUNDBY counselled against action which would bring them out of line with the policy of the Association, and Professor J. T. J. MORRISON supported Mr. Stretton's amendment to add the words which would prevent that result. Professor Saundby, as President of the British Medical Association, approved the Council's action in recommending Mr. Smith Whitaker to accept the Chancellor's offer. He, however, traced the present trouble to the weak action taken by the Representative Body in June last; the stand which was being advocated now should have been pressed for then with the same strength.

The amendment was lost, and the three-fold resolution was passed by a very large majority, thus bringing the practitioners of the Midlands into line with those of the Northern area.

THE PROTEST MEETING IN LONDON.

The mass meeting which had been arranged by Dr. F. J. Smith and an executive committee of London medical men was held in the Queen's Hall on Tuesday afternoon, Dec. 19th, and was the largest gathering of the profession which has yet been held to protest against the medical provisions of the National Insurance scheme. The chair was taken by Sir WILLIAM WATSON CHEYNE, and he was supported upon the platform, among others, by Sir William Church, Sir John Tweedy, Sir Alfred Pearce Gould, Sir William Osler, Dr. Mary Scharlieb, Mr. Brudenell Carter, Professor Howard Marsh, Dr. Sidney Phillips, and Dr. F. J. Smith. The hall was crowded, and only in the highest gallery and at the back of the platform were there any vacant seats; the total number present was well over 2000. Several representatives of the profession in Manchester were on the platform by invitation. Their words were listened to with close attention, and the oratory of Dr. T. A. Helme aroused as much enthusiasm as it had done at the mass meeting at Manchester. The feeling of this large assembly of medical practitioners was almost unanimously in favour of the resolutions proposed, and these were carried by immense majorities. It is to be regretted that Sir Victor Horsley and other apologists of the action taken by the Council of the British Medical Association met with a hostile and disorderly reception, but their presence on the platform was deeply resented by a large number of the medical practitioners present. The confusion which resulted interrupted the business of the meeting and tended to obscure that unanimity of feeling and intention which was so clearly expressed when the resolutions were proposed and submitted to the vote.

The CHAIRMAN in opening the proceedings said they had met under extraordinary and very serious circumstances. A very able and astute statesman had conceived the idea of National Insurance against sickness and unemployment, and had produced a scheme which in some points was admirable but which required careful consideration. He had offered to the public free medical attendance, and the offer had been accepted; but before very long the insured persons would be asking about the kind of medical attendance they were receiving. It was extraordinary that up to the present no definite arrangements had been made with the medical profession, which was to provide the medical attendance promised. No attempt had been made to find out under what conditions it would work, or, if this had been made, the wrong individuals had been consulted. The Chancellor of the Exchequer could not now plead ignorance of the terms under which the profession would do its part of the work. But the Act did not contain any of the demands that the profession had made. What, then, was to be done? This meeting was called in order to tell the Chancellor of the Exchequer that the profession would have no more specious promises, and that until the limited demands of the profession had been put into such a form that there could be no possible quibble, medical men would refuse to give medical treatment as laid down under the Act. There was no strike of the medical profession; they were only asking the Chancellor of the Exchequer to give them the terms which they considered just, and in the alternative they would treat the sick poor in the way they had always done. Under the existing conditions the poor were better off than they would be under the Act. If they were to carry their point they must be united. The effect of this Act would be that thousands of medical men would be reduced to a state of penury or worse. He asked them to support the British Medical Association, the only Association they had, and if fault was found with the Council to get other servants who would better serve the general wish. He begged the speakers who would follow him to avoid all personalities, and to avoid any reference to the Association which would cause its disunion.

Dr. F. J. SMITH, who was received with loud and prolonged cheering, then moved the first resolution, which read as follows:—

> That this mass meeting of the medical profession is of opinion that the six cardinal points originally formulated by the British Medical Association are not guaranteed by the provisions of the Insurance Act in a manner which satisfies the profession.

He passed in review the various provisions of the Act as they affected the medical profession, and showed that any concession that had been made to the profession with one hand the Chancellor had taken away with the other. With regard to medical representation on the Insurance Committees, he showed that it could not be more than one-eighth and possibly only one-tenth, and a section of the Act gave power to approved societies to appoint their own officers on the Committees—just the people they were trying to avoid. Then with regard to statutory recognition, the clause meant nothing, and he foresaw much wrangling with the Commissioners. Again, there was nothing to safeguard the income-limit. The £104 income-limit had not been conceded. He had been told that this limit could have been secured, but the negotiators for the medical profession had preferred to sacrifice professional interests rather than run the risk of putting the Government in danger of defeat. The profession had given to the Council a mandate to secure the six cardinal points as a minimum or to die in the last ditch.

Mr. M. MILTON TOWNSEND seconded. He said the main object of the meeting was to sign a requisition for an extraordinary meeting of the British Medical Association. If the medical profession stood firm they would be able to compel the Government either to give the profession their just demands or to drop the medical provisions of the Act. None of the cardinal points had been conceded, and it was for the meeting to say whether they considered that the demands of the profession had been embodied in the Bill.

At this point Sir VICTOR HORSLEY rose in the body of the meeting and was invited by the chairman to come up on the platform. On attempting to address the meeting he was met with great shouting and opposition, but was eventually allowed to say a few words. He said that with the general terms of the resolution he could find no fault except on the point of grammatical accuracy. The inaccuracy lay in the fact that the six cardinal points of the Association were said to have been ordered by the Representative meeting to be inserted in the Bill. That was not so. Such points as could be inserted into the Bill were to be inserted, and the others were to be settled with the Insurance Commissioners. Again there was uproar, and the meeting refused to allow the speaker to proceed further. In spite of appeals from the chairman and from various groups of the audience, Sir Victor Horsley was compelled to resume his seat.

The resolution was then put and carried with only six dissentients.

Mr. P. C. RAIMENT proposed the second resolution:—

> That this mass meeting re-asserts the fundamental importance of the demands of the medical profession, and is of opinion that every medical practitioner should refuse to accept any office for giving medical attendance and treatment to persons insured under the Act until those demands shall have been definitely conceded.

He submitted that it was not only legitimate but absolutely imperative that the boycott of the profession should continue until the Government had adopted the six cardinal points, or dropped the medical provisions of the Bill altogether. The third alternative was to allow the medical profession to make their own arrangements with the insured. The unity of the profession could best be attained and the Government be compelled to concede its demands by each individual member of the profession refusing to work under the Act.

Dr. T. A. HELME seconded. The National Insurance Bill, he said, had now become law, and in face of such a crisis this was no time for quarrelling among themselves. They were all agreed on the six points, and they would not work unless those points were conceded. The Council of the Association urged them to proceed at once to form the Local Committees and to continue negotiating and bargaining. To bargain with advantage they must stand on equal terms. On the one side there were working men with executive powers and the Commissioners, and on the other a medical body without statutory powers and with only the privilege of going on its knees and begging. The Act had passed with its Harmsworth amendment, and its framework could not now be altered. Was that what they wanted? Was club practice under lay control the fulfilment of their ideals? There was one thing on which the profession might all unite, and he was there to tell them that the men of the North desired united action for themselves and asked the men of the South to stand by them. In this way the profession would get what it wanted. They must refuse to take office as stated in the terms of the resolution. They must make known to the Commissioners their position, and so far as the medical profession was concerned the matter ended. All recognised

that there was much in the Act that was good, but the profession would not allow Mr. Lloyd George to give his charity at their expense. The medical service of the poor to be efficient must be under medical control. The Council of the British Medical Association had failed them, their confidence in it was gone. Pledges were not sufficient; a guarantee must be obtained.

Mr. G. H. PINDER supported the resolution, and said that the profession in Yorkshire, Lancashire, and Cheshire was united solidly.

Dr. BRIERLEY said that the profession must have statutory powers to carry into effect its wishes. By the Act they were asked to work contract practice under conditions of abject slavery.

Sir A. PEARCE GOULD, after an impressive plea for unity and a powerful protest against the evils of club practice, said the profession would refuse to act until their just demands had been conceded. The Act said that the Commissioners were to see that provision was made for adequate medical attention to the poor. Little had been said about remuneration, but how could that be determined until it was decided what was to be paid for? No notion had yet been given as to the character and nature of the work demanded of the profession. They all wanted to see the medical treatment of the industrial population of this country done as well as it could be done, and the medical profession properly remunerated. The new legislation was an extension of the legislation of the past century based on charity. Let them do their work as best they could, but let them insist on being paid like men.

Dr. J. H. KEAY, speaking on behalf of the Council of the Association, asked whether anyone knew of any Bill dealing with social legislation during the past 100 years in which everything had been embodied and nothing left to be fixed by Commissioners; but at this point he was interrupted and was compelled to resume his seat.

Dr. WILLIAM DOUGLAS agreed that the six cardinal points were the irreducible minimum, and claimed that the British Medical Association was using every possible means to ensure that no practitioner should undertake the medical attendance of insured persons unless absolutely in accordance with the six cardinal points of the Association.

Dr. WHEELER HART, of Manchester, said the profession never dreamed that the Council would approve of any Act of Parliament which would not guarantee that they should get the six points by statutory means. If there was to be a strike this was the issue on which it would take place. The points must be so embodied in the Act that they could be carried out by constitutional means, and by ways which were consistent with their work as professional men and gentlemen.

Before the close of the meeting Dr. SIDNEY PHILLIPS proposed that the resolutions passed with such unanimity by those present should be forwarded by the chairman to the Prime Minister and the Chancellor of the Exchequer. This was seconded by Sir JOHN TWEEDY and carried with acclamation.

On their departure members of the British Medical Association were given an opportunity of signing their names to a requisition to the Council of the Association for an extraordinary general meeting, to be held within 21 days, in accordance with the articles of the Association. This received many signatures, and has since been forwarded to the headquarters of the Association. Its wording was as follows:—

NATIONAL INSURANCE BILL.

Requisition for an Extraordinary General Meeting.

Dec. 19th, 1911.

TO THE CHAIRMAN AND COUNCIL OF THE BRITISH MEDICAL ASSOCIATION,—We, the undersigned members of the British Medical Association, hereby require the Council, in accordance with Articles 20, 21, and 22 of the Articles of Association of the British Medical Association to convene an Extraordinary General Meeting of the British Medical Association for the purpose of discussing the following resolution as special business, namely:—

That, in the opinion of this Extraordinary General Meeting of the members of the British Medical Association, the National Insurance Act does not safeguard the six cardinal points of the policy of the British Medical Association in a manner satisfactory to the members of the aforesaid Association, and we consider that the Council of the British Medical Association has failed in its duty towards its members.

Here followed the names and addresses, and the Divisions to which they belong, of the members of the Association signing the requisition.

THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION AND THE MEDICAL PROFESSION.

Sir Victor Horsley, Dr. J. H. Keay, and Dr. A. J. Rice-Oxley have addressed a letter to the *Times*, intended to define the constitutional position of the Association, which they were unable to do at the meeting in Queen's Hall, being refused a hearing. The letter contends: (1) That in dealing with the Insurance Bill the Association, through its Representatives, and not the Council, has been responsible for the policy pursued; (2) that the Council was instructed that points in the policy of the Association, if unable to be secured otherwise, should be determined by the Insurance Commissioners; (3) that with regard to the wage-limit, the Representatives found that it was impossible to fix either a flat rate or a common method of remuneration; and (4) that "free choice of doctor," owing to amendment of the Harmsworth amendment at the instigation of the Council, was provided for in the Act.

A PROTEST MEETING AT SHEFFIELD.

A large number of Sheffield medical men, nearly 300 in number, met on Tuesday last and protested almost unanimously against the conditions of the Act. Mr. Archibald Cuff, who presided, said that if the profession accepted less than the minimum demands which they had formulated they would sacrifice their whole position, professional and financial. Mr. Lloyd George had made concessions, but these had been nullified by other concessions. Their leaders had capitulated too easily and accepted these trifling concessions when a bolder course would have been better. Neither the House of Commons nor the public had believed that they were in earnest.

A resolution was proposed refusing to form a panel under the Act or to undertake any duties which it proposes to assign to the profession. An amendment in favour of refusing to enter into arrangements for the treatment of insured persons on terms inconsistent with the declared policy of the British Medical Association was defeated, only five voting for it. The resolution was then carried.

THE SCOTTISH COMMISSIONERS.

The appointment of the following Scottish Commissioners under the National Insurance Act is officially announced:—

Chairman:—Mr. James Leishman, Treasurer of the City of Edinburgh.

Deputy Chairman:—Dr. John Christie McVail, M.D., LL.D.

Commissioners:—Mr. John McNicol, General Secretary, Loyal Order of Ancient Shepherds, Ashton Unity; and Miss M. M. Paterson, H.M. Deputy Principal Lady Inspector of Factories.

Secretary:—Mr. John Jeffrey, Inspecting Officer, Local Government Board for Scotland.

THE WELSH COMMISSIONERS.

The Welsh Commissioners have been announced as follows:—

Chairman:—Alderman T. J. Hughes, Vice-Chairman of the Glamorgan County Council.

Commissioners:—Dr. Meredith Richards, Medical Officer of Health of Croydon; Mr. J. Rowland, M.V.O.; and Hon. Violet Douglas-Pennant.

Secretary:—Professor T. Jones.

"ENEMIES OF THEIR PROFESSION."

To the Editor of THE LANCET.

SIR,—In an unfortunate moment I agreed, at the request of the honorary secretary of the Marylebone Division, who was going for a holiday, to undertake a postal canvas of the medical practitioners resident in the division asking them (1) to sign an "undertaking"; (2) to give a "guarantee";

and (3) inviting those who were not members of the Association to become so. The honorary secretary of the division had been requested by the late medical secretary of the Association to carry out this canvas. I should not have thought it possible to call forth so much personal abuse in such a little time, and it is quite evident that there is a large number of medical men in the division at the present time in a peculiarly irritable condition.

The following is a fair specimen of a large number of communications I have received during the last few days by post and telephone :—

I consider it extremely offensive on your part to send me a circular in which you threaten me that the profession to which we both have the honour to belong will "regard those who after repeated applications persist in refusing to commit themselves to a definite statement on behalf of the profession's policy as being, however unintentionally, enemies of their profession."

The statement between the inverted commas is abstracted from the fourth paragraph of Circular 3 issued with the sanction of the Council of the Association, one of the documents I was requested to circulate. I understand that a great many members of the medical profession residing in the Marylebone division are holding me personally responsible for what they are pleased to term this "offensive paragraph," and so, with your permission, I hasten to deny the soft impeachment of being a "blackmailer," and to disassociate myself with, to say the least of it, such unfortunate phraseology as is to be found at the end of this fourth paragraph of Circular 3.

I signed Circular 3 as an officer of the Association, but also as one who had no control over the actions of the Council or of the late medical secretary. I wish I had!

I am, Sir, yours faithfully,

Wimpole-street, W., Dec. 19th, 1911. COMYNS BERKELEY.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—As the result of the recent Final Fellowship Examination held on Nov. 23rd, 27th, 28th, 29th, 30th, and Dec. 1st, for which 72 candidates presented themselves, of whom 33 were approved and 39 were rejected, the council at its meeting on Dec. 14th conferred the Diploma of Fellow upon 31 candidates (including one lady—Miss Eleanor Davies-Colley, M.D., B.S. Lond., Royal Free Hospital—the first lady to obtain the Fellowship). The following are the names of the successful candidates :—

Harry Robinson, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Thomas Waddelow Smith, M.R.C.S., L.R.C.P., L.S.A., King's College Hospital; Alfred John Hull, Captain R.A.M.C., M.R.C.S., L.R.C.P., Guy's Hospital; Arthur Charles Haslam, M.D., B.S. Lond., M.R.C.S., L.R.C.P., St. Thomas's and St. Bartholomew's Hospitals; Harold Rowe Jeremy, M.R.C.S., L.R.C.P., London and St. Bartholomew's Hospitals; Henry Lewis Morgan, M.B., B.S. Lond., M.R.C.S., L.R.C.P., London Hospital; James Richard Henry Turton, M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Bartholomew's and St. George's Hospitals; Gathorne Robert Girdlestone, M.B., Ch.B.Oxon., M.R.C.S., L.R.C.P., Oxford University and St. Thomas's Hospital; Alexander Todd McCaw, M.R.C.S., L.R.C.P., London Hospital; Bertram Arthur Lloyd, M.B., B.S. Lond., M.R.C.S., L.R.C.P., Birmingham University and London Hospital; David Ranken, M.B., B.S. Lond. and Durh., M.R.C.S., L.R.C.P., Durham University and St. Bartholomew's Hospital; Philip Alfred Reckless, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Lionel Colledge, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and St. George's Hospital; Habibmia Ismail Janmahomed, M.D., B.S. Lond., M.R.C.S., L.R.C.P., and Vincent Townrow, M.B., B.S. Lond., M.R.C.S., L.R.C.P., Guy's Hospital; Bernard Grainger Goodwin, M.R.C.S., L.R.C.P., Birmingham University and London Hospital; Harry Lee, M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and Guy's Hospital; William Robert Parkinson, M.R.C.S., L.R.C.P., St. Thomas's Hospital; Samuel Ariaratnapillai Vairakiam, L.M.S. Ceylon, M.R.C.S., L.R.C.P., Ceylon Medical College and London Hospital; Wilfrid Langrish Pink, M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Thomas's Hospital; Andrew Samuel Moorhead, M.B. Toronto, M.R.C.S., L.R.C.P., Toronto University and London and Middlesex Hospitals; Aleck William Bourne, B.A., B.C. Cantab., M.R.C.S., L.R.C.P., St. Mary's Hospital; Howard Bullock, M.B., Ch.M. Sydney, M.R.C.S., L.R.C.P., Sydney and Oxford Universities and London Hospital; Casement Gordon Aickin, M.B., Ch.B. New Zealand, Otago University and St. Bartholomew's Hospital; James Harris Connolly, M.B., Ch.B., M.D. Edin., Edinburgh University, St. Bartholomew's and Middlesex Hospitals; Eleanor Davies-Colley, M.D., B.S. Lond., Royal Free Hospital; Henry Mulrea Johnston, B.A., M.B. R.U.I., Queen's College, Belfast, Dublin University, and St. Bartholomew's Hospital; Alfred Fay Maclure, M.D., B.S. Melbourne, Melbourne University and Middlesex Hospital; Robert Charles MacWatt, M.B., C.M., B.Sc. Edin. (Lieutenant-Colonel, I.M.S.), Edinburgh University and London Hospital; Charles Gordon Shaw, M.D., B.S. Melbourne, Melbourne University and Middlesex and St. Mary's Hospitals; and Thomas Wingate Todd, M.B., Ch.B. Manchester, Manchester University.

The following gentlemen successfully passed the examination but are not eligible to receive the Fellowship because they have not yet attained the requisite age of 25 years :—

Robert Coltart Harkness, M.B., Ch.B. Edin., M.R.C.S., L.R.C.P., Edinburgh University and St. Bartholomew's Hospital; Arthur Gordon Haynes Lovell, M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Mary's Hospital; and Bernard Constable Maybury, M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Thomas's Hospital.

Licences to practise Dentistry were also conferred upon the undermentioned 44 gentlemen who have complied with the by-laws :—

Eric Bernard Armitage, Middlesex and Royal Dental Hospitals; Norman Arthur Austin, Birmingham University; Ernest Walter Bacon and Edwin Randolph Bailey, Guy's Hospital; Alfred Barritt, Middlesex and National Dental Hospitals; Victor Emmanuel Dawson Bergh, Guy's Hospital; John William Bowen, St. Bartholomew's and Royal Dental Hospitals; Henry James Burch, Guy's Hospital; Arthur Caspar Stevenson Cottam and James Kenneth Crawford, Charing Cross and Royal Dental Hospitals; Philip Percival Davies, Middlesex and National Dental Hospitals; Thomas Clement Davies, Charing Cross and Royal Dental Hospitals; Harold Graham Elliott and Reginald Gilbert Farrington, Guy's Hospital; Edwin Joseph Handford, Bristol University; Harold Harvey, Birmingham University; John Otway Hayes, Middlesex and National Dental Hospitals; Ernest Victor Jones, Charing Cross and Royal Dental Hospitals; Michael William Joseph Davis Joseph, Birmingham University; William Symons Lakeman, Guy's Hospital; Harold Lionel Laws, B.A. Oxon., M.R.C.S., L.R.C.P., St. George's and National Dental Hospitals; Frank Lodge, Charing Cross and Royal Dental Hospitals; Harold Leonard Meyer and Raphael Neft, Guy's Hospital; Thomas Spencer Osmer, Middlesex and Royal Dental Hospitals; Jal Framji Patel, L.M.S. Bombay, Bombay University and Guy's Hospital; Percy John Peatfield, Guy's Hospital; Felix Lambert Pradier, Middlesex and National Dental Hospitals; John Griffith Richards, Guy's Hospital; Warren Longtoft Roberts, Leeds University; Russell Rodgers and John Hampden Ross, Guy's Hospital; Robert Dendy Sadler, Middlesex, Royal, and National Dental Hospitals; Isidore Gittleson Samuels and Hubert Dennis Shore, Guy's Hospital; William Christie Tattersall, Middlesex and National Dental Hospitals; Thomas Reginald Trounce, Walter Colin Wade, Douglas Wain, Frank Roland Wallis, and Clifford Toulson Watson, Guy's Hospital; William Henry Whitworth, Manchester University; Charles Henry Wilson, Bristol University; and Henry Stanley Young, St. Thomas's and Royal Dental Hospitals.

UNIVERSITY OF LIVERPOOL.—The Diploma in Tropical Medicine has been awarded to the following :—

F. F. Brown, M.D., C.M. McGill; D. J. Chand, L.R.C.P. & S. Edin., L.F.P.S. Glasg.; J. M. Holmes, B.A., M.B., B.Ch., B.A.O. Dub.; C. L. Ievers, L.R.C.P. & S. Edin., L.F.P.S. Glasg.; E. K. Lomas, M.B., Ch.B. Manch.; D. S. MacKnight, M.B., Ch.B. Edin.; J. V. Mascarenhas, M.B., C.M. Madras; A. L. Oluwole, M.B., Ch.B.; and J. A. Taylor, M.B., Ch.B. Edin.

At examinations held recently the following candidates were successful :—

DEGREES OF M.B. AND CH.B.

Second Examination.—Part A, Ethel Chadwick, G. H. Darlington, A. N. Misbah, G. H. Pearson, L. B. Stott, and A. W. Weston. Part B, F. A. Belam, C. W. Dixon, H. E. Marsden, R. Martlew, A. C. Mooney, and R. E. Roberts.

Final Examination.—Part I.: Kate M. Cowe, D. Parkes, H. P. C. de Silva, and T. O. Williams. Part II.: D. Parkes.

DIPLOMA IN DENTAL SURGERY.

Third Examination.—A. E. Bate.

THE INSURANCE ACT AND NURSES.—At a general meeting of the Midland Association of Matrons and Lady Superintendents (Warwickshire, Worcestershire, and Staffordshire) the following resolutions were unanimously carried :—

That the Midland Association of Matrons and Lady Superintendents in general meeting assembled, seeing that under Clause 17 (or 20) of the National Insurance Bill nurses may be appointed to attend on insured persons, are gravely concerned that thereby recognition by the State of untrained or partly trained nurses may follow, and they consider that such recognition must inevitably lead to deterioration of the standard of nursing profession. The Midland Association of Matrons and Lady Superintendents strongly urge, therefore, that the words "fully trained" be inserted before the words "district nurse" and "nurse" in Clause 17 (or 20).

That the Midland Association of Matrons and Lady Superintendents beg that a thoroughly trained nurse may be placed upon the Advisory Committee to be nominated by the Insurance Commissioners under the National Insurance Bill.

REMARKABLE STATISTICS REGARDING DEFECTIVE EYESIGHT.—The Lambeth board of guardians, at its last meeting, considered a return showing that in 12 months 632 visits were made by children in the Poor-law schools at Norwood to the Royal Eye Hospital. The medical officer reported that each child sent to the institution was suffering from defective vision and in need of treatment by a specialist. No less than 122 pairs of spectacles had been provided, costing £20 9*s.* 6*d.*, whilst repairs were executed amounting to £12 17*s.* 6*d.* The travelling expenses to and

from the hospital were £21 1*s.* 5*d.* There were 70 girls and 58 boys in the school wearing spectacles, the proportion being somewhat in excess of 20 per cent. of the school population. The board decided in future to send the children for treatment in regard to their eyes to the clinic established by the London County Council at Chestnut-road, West Norwood.

ROYAL INSTITUTION.—The annual Christmas course of juvenile lectures at the Royal Institution begins on Dec. 28th at 3 o'clock, when Dr. Chalmers Mitchell will deliver the first of six lectures on the Childhood of Animals.

His Excellency the Viceroy and Governor-General of India has appointed Brevet-Colonel R. H. Firth, R.A.M.C., to his personal staff as honorary surgeon, from Nov. 3rd, 1911, *vice* Colonel R. H. Forman, retired.

LITERARY INTELLIGENCE.—The first volume of "A New System of Surgery," of which the general editor is Mr. C. C. Choyce, F.R.C.S. Eng., and the pathological editor Professor J. Martin Beattie, M.D. Edin., is announced for early publication by Messrs. Cassell and Company.

AT a meeting of the Senate of the University of London on Dec. 13th the Royal Dental Hospital and London School of Dental Surgery was admitted as a School of the University in the Faculty of Medicine (in dentistry only) for a period of five years as from Oct. 1st last.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The National Insurance Act.

THE National Insurance Bill became an Act of Parliament on Saturday, Dec. 16th, when it received the Royal Assent. The alterations made in the measure in the House of Lords were numerous, but for the most part they were intended merely to improve the drafting of the Bill. Their effect on the provisions of the Bill as it left the House of Commons is small. For instance, the designation "Local Health Committee" has been changed to "Insurance Committee." The official Opposition in the House of Lords adhered to its intention expressed by the Marquis of LANSDOWNE on the second reading, and refrained from any attempt to examine or reframe the provisions of the measure. The attitude of the Opposition was that at this period of the session it was impossible to undertake the systematic review of a Bill so complex and lengthy, and that the Government must accept the entire responsibility for it. It is common ground to politicians of all parties that the details of the Act are so complicated, and the varieties of circumstance which they have to meet are so numerous, that amending Bills will be necessary as experience reveals the weak points.

The Medical Profession and the Insurance Act.

Some references to the position of the medical profession under the National Insurance legislation of the Government were inevitable during its passage through the House of Lords. When the measure was in Committee on Thursday, Dec. 14th, the Bishop of BANGOR proposed to introduce into Clause 15 (administration of medical benefit) a provision giving to medical practitioners who had been struck off the panels the right of an appeal to the General Council of Medical Education and Registration. Viscount HALDANE, who had charge of the Bill in the House of Lords, resisted the amendment, arguing that the powers given to the Insurance Commissioners to revise such removals were adequate. The amendment was negatived without a division. Speaking on Clause 15, Viscount MIDLETON made some criticism on its effect. He feared that the general extension of contract practice would make intolerable demands on the medical profession, for which the scale of remuneration contemplated by the Chancellor of the Exchequer and his advisers was quite inadequate. When persons might call in a medical men without having to pay for his visits, many would ask for medical attendance who now went without it. Viscount HALDANE'S answer was that he did not think any difficulty would arise in getting doctors to do the work. It was often extremely difficult for young medical men to secure a start in their profession; but if they got their names placed upon the panel the Bill would give them an opportunity which they had not at present.

The attitude of hostility of the medical profession, particularly in the North of England, to the terms offered to them under the National Insurance Act has caused some apprehensions in Ministerial quarters at Westminster. The spokesmen of the Government have expressed a "hope" that the difficulties with the profession will be removed by the regulations issued by the Insurance Commissioners and by the negotiations conducted in each locality. Lord ASHBOURNE, on Friday Dec. 15th, put a question to the Government on the attitude of the medical profession. Viscount HALDANE was absent from his place when the question was put, but Earl BEAUCHAMP replied that the Government hoped that the medical men would be willing and ready to work the Bill. In expressing this view he admitted that he had read the report of the Manchester meeting held on the previous day.

The Prorogation.

On Saturday, Dec. 16th, Parliament was prorogued until Wednesday, Feb. 14th. Among the measures to receive the Royal Assent was the Rag Flock Act.

HOUSE OF COMMONS.

WEDNESDAY, DEC. 13TH.

Sleeping Sickness.

Dr. CHAPPLE asked the Secretary of State for the Colonies whether the evidence that glossina morsitans was a carrier of the trypanosome of sleeping sickness was now sufficiently conclusive to justify him in so relaxing the severity of the game laws of Nyassaland as to permit of the natives hunting game known to harbour the trypanosome in their blood, in order that both the game and the infecting fly which invariably accompanied it might be driven off from the populous centres and the black and the European population and their domestic animals be protected from the spread of this disease.—Mr. L. HARCOURT replied: There is not yet sufficiently conclusive evidence to justify my taking the course suggested. A scientific Commission, under the direction of Colonel Sir David Bruce, is now engaged in investigating in the Protectorate the relations between the fauna of the country, the tsetse fly, and the trypanosome, and when definite results are reached I shall not hesitate to adopt such measures as may be required. It must be remembered that domestic animals as well as game are suspected of being carriers of the trypanosome.

Dr. CHAPPLE: Is the right honourable gentleman not aware that sleeping sickness in man and trypanosomiasis in domestic animals are spreading in Nyassaland, and that these are associated with the presence of game and tsetse around the populous centres?—Mr. L. HARCOURT: I have been in close communication with Dr. Kinghorn, and I am considering the matter very carefully. Whilst the Commission is inquiring into it I think I ought to be allowed to wait for their recommendations.

Dr. CHAPPLE: Is the right honourable gentleman aware that in the meantime sleeping sickness is spreading very rapidly in Nyassaland, and that Professor Koch recommended that the game be driven back from populous centres because of the danger to natives and domestic animals from the proximity of game and infective tsetse, and is it not a fact that Dr. Kinghorn has experimentally inoculated susceptible animals with trypanosomiasis from the bite of infected glossina morsitans, the tsetse fly of Nyassaland?

The SPEAKER: The honourable Member can hardly expect the Secretary for the Colonies to answer those matters without notice.

Dr. CHAPPLE subsequently, on the motion for the adjournment, called attention to the immediate importance of doing something with regard to the spread of sleeping sickness in Nyassaland. There was, he said, a great waste of precious time involved in waiting for the report of the Sleeping Sickness Commission, while in the meantime the disease was spreading amongst the natives and the whites and also amongst the domestic animals. A number of whites as well as natives had been dying in Nyassaland from sleeping sickness. A report had just come to hand from Nyassaland in which the following sentence occurred: "The health of the native community has been quite satisfactory apart from the existence of sleeping sickness, which has slowly been extending during the last 12 months in spite of every effort to arrest it." The honourable Member was proceeding to discuss the relation of the disease to domestic animals when the House was "counted out" owing to the absence of a quorum.

The Insurance Bill and Medical Benefit.

Mr. NORMAN CRAIG asked the Secretary to the Treasury whether any and, if so, what steps would be taken to ensure that, in the event of the National Insurance Bill becoming law, insured persons would receive the medical benefit purported to be secured to them by the Bill.—Mr. MCKINNON WOOD replied: I trust that no difficulties will arise in this respect, but I can assure the honourable Member that if they should arise adequate steps will be taken to deal with them.

Patent Medicines.

Mr. LYNCH asked the Secretary of State for the Home Department whether, in regard to the Select Committee to consider medical matters, he would consider the advisability of making the terms of reference fairly extensive, so that not merely questions of patent medicines might be dealt with, but also the practice of medicine by unqualified men.—Mr. MCKENNA replied: I do not think it would be wise to extend the scope of the inquiry beyond patent medicines.

Mr. LYNCH asked the right honourable gentleman whether he was in a position to state whether the Select Committee promised for next session to inquire into the subject of patent medicines and allied matters would be a departmental committee or in the nature of a Royal Commission; and whether the medical profession would be represented both in regard to science and to professional practice.—Mr. MCKENNA answered: I am unable at present to make a definite announcement, but it is proposed that the inquiry should be by a Select Committee of this House or possibly a joint Select Committee.

THURSDAY, DEC. 14TH.

Anthrax.

Mr. JOWETT asked the Secretary of State for the Home Department whether he would say how many cases of internal anthrax had occurred during the 10 years commencing Jan. 1st, 1900, in establishments where woolcombing regulations were in force, and how many of these were fatal.—Mr. MCKENNA answered: The number of reported cases of internal anthrax in woolcombing establishments during the 10 years 1901 to 1910 was 18, of which 17 were fatal.

Mr. JOWETT also asked the right honourable gentleman whether he would state how many cases of internal anthrax occurred among woolsorters during the 10 years immediately preceding the one in which the woolsorters' regulations, issued in 1897, were put into force, and

how many were fatal, and the number of cases of internal anthrax among woolsorters during the last ten years, and how many of these were fatal.—Mr. MCKENNA said, in reply: The number of reported cases of internal anthrax among woolsorters during the 10 years 1901 to 1910 was five, of which all were fatal. One case, which was also fatal, has occurred during the present year. The figures for the 10 years preceding the special rules cannot be given, as the obligation to notify cases was not imposed until 1896. I am advised, however, that such evidence as there is points to the greater prevalence of the disease then than now.

Mr. LYNCH: Is the right honourable gentleman aware that under proper conditions, which are possible, the mortality from anthrax should be reduced to nil?

Mr. MCKENNA: I believe that every precaution that can be taken is taken now, but perhaps the honourable gentleman will communicate with the Home Office what the proper precautions should be. I shall be very glad to consider them.

Mr. LYNCH: In other countries it has been so reduced.

Sanatorium Funds.

Mr. HICKS-BEACH asked the Chancellor of the Exchequer whether any of the sums available under the National Insurance Bill or the Finance Bill, 1911, for the purposes of the provision of sanatoria could be allocated towards the cost of Poor-law institutions which had been, or were being, or might be, provided for the treatment of tuberculosis.—Mr. LLOYD GEORGE wrote in reply: The answer is in the negative.

The Certification of Lunatics.

Captain FABER asked the Home Secretary whether, looking at a recent case in which a doctor refused to allow a man to be removed to an asylum owing to weakness, although he had himself certified the man insane, he would consider the advisability of preventing any local authority from appointing only one doctor to certify lunatics; and whether the Local Government Board or the Lunacy Commissioners had any power over a single doctor and were able to call in another doctor, if necessary.—Mr. MCKENNA wrote in reply: A local authority has no power to appoint any doctor to certify lunatics for reception into asylums; it rests with the justice who makes the order under Section 16 of the Lunacy Act, 1890, to call in any medical practitioner whom he may choose to examine the patient and sign the certificate. Neither the Local Government Board nor the Lunacy Commissioners have any power over the doctor who has given a certificate under Section 19 (2) for the suspension of removal, nor are they able to call in another doctor.

Vision Tests.

Mr. LYNCH asked the President of the Board of Trade whether, in reference to the various offices under his control, he could state what proportion of candidates tested for vision were colour blind; whether any classification of results was obtainable, as, for instance, with regard to degree or kind of colour blindness, or the association of this defect with any other physical condition; and, if so, whether he could give the statistics for the last five years, supplemented by any comments of the medical authorities which might be useful in the scientific regard of the question.—Mr. S. BUXTON furnished the following written reply: The only examinations in colour vision conducted by the Board of Trade are those for persons serving, or intending to serve, in the Mercantile Marine or in the fishing industry. Particulars of these examinations are published in an annual report on the sight tests, a copy of the latest issue of which I am sending to my honourable friend. As candidates for certificates of competency are required to undergo the sight tests on every occasion on which they present themselves for examination, many persons appear more than once in the total number of examinations, and the figures are therefore no guide to the general incidence of colour blindness. I am not aware of any data showing the association of colour blindness with any other physical condition, but information is available as to the nature of the colour defects of candidates who fail to pass the tests. These are classified on the Young-Helmholtz theory of colour vision, according to whether complete or incomplete red or green blindness is present. The whole question of the sight tests at present in force is now being considered by a departmental committee. A table giving the statistics desired by my honourable friend is appended:—

—	1906.	1907.	1908.	1909.	1910.
Number of examinations in colour vision	6410	6564	6288	6028	7393
Number of failures	57	76	44	71	112
Nature of defects:					
Complete red blindness	10	29	15	20	32
Incomplete red blindness	9	5	4	15	17
Complete green blindness	25	31	18	23	42
Incomplete green blindness	13	11	7	13	21

SATURDAY, DEC. 16TH.

Welsh Insurance Commissioners.

In answer to Mr. ELLIS GRIFFITH, Mr. LLOYD GEORGE said that the names of the Insurance Commissioners for Wales under the National Insurance Bill were:—Chairman, Alderman T. J. Hughes, Vice-Chairman Glamorgan county council, who for 12 years had been chairman of the financial committee of the council; Commissioners: Dr. Meredith Richards, medical officer of health, Croydon, who had had a large and varied experience of all kinds of medical work; Mr. John Rowland, M.V.O., of the Treasury; and Miss Violet Douglas-Pennant, who had had wide experience of social work; Secretary, Professor Thomas Jones, M.A., secretary of the King Edward VII. Welsh National Memorial Fund.

BOOKS, ETC., RECEIVED.

APPLETON, D., AND CO., New York and London.

Heredity in Relation to Evolution and Animal Breeding. By William E. Castle, Professor of Zoology, Harvard University. Price 6*s.* net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London. (Published for Department of Education, Sudan Government, Khartoum.)

Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. Volume A.—Medical. Andrew Balfour, M.D., B.Sc., F.R.C.P. Edin., D.P.H. Camb., Director. 1911. Price 21*s.* net.

CHURCH OF ENGLAND TEMPERANCE SOCIETY, 4, Sanctuary, Westminster, London, S.W.

Modern Medical Opinions on Alcohol. Being a Series of Lectures delivered by well-known Medical Men. Price 1*s.*

CHURCHILL, J. AND A., 7, Great Marlborough-street, London.

The Medical Directory, 1912. Sixty-eighth Annual Issue. Price 14*s.* net.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XXXI. Session 1910-1911. With List of Officers, Members, &c. Price 12*s.* 6*d.* net.

CONSTABLE AND CO., LIMITED, 10, Orange-street, Leicester-square, London, W.C.

Recent Methods in the Diagnosis and Treatment of Syphilis, the Wassermann Serum Reaction and Ehrlich's Salvarsan. By Carl H. Browning, M.D., Lecturer on Clinical Pathology, University of Glasgow, Director, Clinical Research Laboratory, Western Infirmary, Glasgow, and Ivy Mackenzie, M.A., B.Sc., M.B., Ch.B., Director, Western Asylums' Research Institute, Glasgow, Physician to the Out-Patients' Department, Western Infirmary, Glasgow. In collaboration with John Cruickshank, M.B., Ch.B., and Charles G. A. Chislett, M.B., Ch.B., Walter Gilmour, M.B., Ch.B., Hugh Morton, M.B., Ch.B. With an Introduction by Robert Muir, M.A., M.D., F.R.S., Professor of Pathology in the University of Glasgow. Price 8*s.* 6*d.* net.

FUNK AND WAGNALLS COMPANY, Salisbury-square, London, E.C.: 44-60, E. 23rd-street, New York.

Life, Death, and Immortality. By William Hanna Thomson, M.D., LL.D., Author of "Brain and Personality," "What is Physical Life," &c., Consulting Physician to the Roosevelt Hospital, &c. Price $1.00 net.

"GARDEN LIFE," Office of, Hatton House, Great Queen-street, London, W.C.

The Amateur Gardener's Diary and Dictionary, 1912. Price 1*s.* net.

GILL, GEORGE, AND SONS, LIMITED, 13, Warwick-lane, London, E.C.

Red Cross Manual of First Aid and Stretcher Drill for Red Cross Students. By D. M. Macdonald, M.D., Medical Officer of Health, Leven, Fife, Examiner to the St. Andrew's Ambulance Association, formerly Captain R.A.M.C.T.F. (Scottish Horse). Price 1*s.* net.

GURNEY AND JACKSON, 33, Paternoster-row, London.

Entomology for Medical Officers. By A. Alcock, C.I.E., M.B., LL.D., F.R.S., I.M.S., retd., Lecturer on Medical Entomology, &c., at the London School of Tropical Medicine. Price 9*s.* net.

HARPER AND BROTHERS, 45, Albemarle-street, London, W.

Ancient Types of Man. By Arthur Keith, M.D., LL.D. Aberdeen. Price, cloth, 2*s.* 6*d.* net; leather, 3*s.* 6*d.* net.

HAZELL, WATSON, AND VINEY, LIMITED, 52, Long Acre, London, W.C.

Hazell's Annual for 1912. A Record of the Men and Movements of the Time. Revised to November 25th, 1911. Edited by Hammond Hall. Twenty-seventh Year of Issue. Price 3*s.* 6*d.* net.

HERRICK BOOK AND STATIONERY COMPANY, THE, Denver, Colorado, U.S.A.

The Ophthalmic Year Book. Volume VIII. Containing a Digest of the Literature of Ophthalmology, with Index of Publications for the Year 1910. By Edward Jackson, M.D., Professor of Ophthalmology in the University of Colorado, Theodore B. Schneideman, M.D., Professor of Ophthalmology in the Philadelphia Polyclinic, and William Zentmayer, M.D., Attending Surgeon to the Wills Eye Hospital, Philadelphia. Price not stated.

KARGER, S., Berlin.

Anomale Kinder. Von Dr. med. L. Scholz, Direktor der Provinzial-Irren- und Idiotenanstalt in Kosten (Prov. Posen). Price M.3.60.

Die Erkennung der psychopatischen Konstitutionen (krankhaften seelischen Veranlagungen) und die öffentliche Fürsorge für psychopathisch veranlagte Kinder. Von Prof. Dr. Th. Ziehen, Geh. Med.-Rat Direktor der Psychiatrischen und Nervenklinik der Kgl. Charité in Berlin. Price Pf.80.

Leitfaden der Elektrodiagnostik und Elektrotherapie für praktiker und Studierende. Von Dr. Toby Cohn, Nervenarzt in Berlin. Vierte, vollständig umgearbeitete und vermehrte Auflage. Price M.6.60.

Die Störungen des Verdauungsapparates als Ursache und Folge anderer Erkrankungen. Von Dr. Hans Herz in Breslau. Zweite, umgearbeitete und vermehrte Auflage. I. Teil: Die Krankheiten des Blutes, des Stoffwechsels, der Konstitution in ihren Beziehungen zum Verdauungsapparat. Price M.6.

Die Störungen des Farbensinnes, ihre klinische Bedeutung und ihre Diagnose. Von Dr. Hans Köllner, Privatdozent an der Universität Berlin, Assistent der Universitäts-Augenklinik. Price M.14.

Abhandlungen aus dem Gebiete der Geburtshilfe und Gynæekologie. Mitteilungen aus der Zweiten Frauenklinik der königl. ung. Universität zu Budapest. Herausgegeben von Prof. Dr. W. Tauffer, Direktor der Klinik. Band II. Heft. I. Price M.4.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., LIMITED, Broadway House, Carter-lane, London, E.C.

The Evidence for the Supernatural. A Critical Study Made with "Uncommon Sense." By Ivor Ll. Tuckett, M.A., M.D. Cantab., M.R.C.S., L.R.C.P., formerly Fellow of Trinity College, Cambridge, and Senior Demonstrator of Physiology in Cambridge University. Price 7s. 6d. net.

KING, P. S., AND SON, Orchard House, Westminster, London, S.W.

National Conference on the Prevention of Destitution. Held at the Caxton Hall, Westminster, on May 30th and 31st, and June 1st and 2nd, 1911. Report of the Proceedings of the Public Health Section. President: Sir T. Clifford Allbutt, K.C.B., F.R.S. Price 2s. 6d. net.

MACLEHOSE, JAMES, AND SONS, Glasgow.

A Manual of Midwifery for Students and Practitioners. By G. Balfour Marshall, M.D., C.M., F.R.F.P.S.G., Senior Gynæcologist, Royal Infirmary, Glasgow, Extra-Academical Lecturer on Midwifery and Gynæcology, Glasgow. Price 14s. net.

MURRAY, JOHN, Albemarle-street, London, W.

The Anopheline Mosquito; some Facts and Information for Use in Schools. By R. C. Dauglish. With an Introduction by J. W. W. Stephens, M.D., of the Liverpool School of Tropical Medicine. Price 6d. net.

NATIONAL PRINTING DEPARTMENT, Cairo.

Ministry of Education, Egypt. Records of the School of Medicine. Edited by the Director. Vol. IV. (All applications for the volumes of the Records should be addressed to: The Director, School of Medicine, Cairo, Egypt.) Price not stated.

PARMELEE, C. H., Printer to the King's Most Excellent Majesty, Ottawa. CENSUS AND STATISTICS OFFICE (Archibald Blue, Chief Officer), Ottawa.

The Canada Year Book, 1910. Second Series. Issued, June, 1911.

VINTON AND CO., LIMITED, 8, Bream's Buildings, Chancery-lane, London, E.C

Live Stock Journal Almanac for 1911. Illustrated. Price 1s. net.

WHITAKER, J., AND SONS, LIMITED, 12, Warwick-lane, Paternoster-row, London.

An Almanack. For the Year of Our Lord 1912. (Forty-fourth issue.) By Joseph Whitaker, F.S.A. Price, paper cover (536 pages), 1s.; half-bound (858 pages), price 2s. 6d.

Whitaker's Peerage, Baronetage, Knightage, and Companionage for the Year 1912. Price 5s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

MUNRO, DONALD J., M.B., B.S. Lond., has been appointed Second Anæsthetist to the Belgrave Hospital for Children.

OATES, GEOFFREY EUGENE, M.D. Lond., M.R.C.P. Lond., has been appointed Medical Officer of Health of Ilford.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry. Also Assistant Pathologist. Salary £100 per annum, with board, residence, and laundry.

BRISTOL ROYAL INFIRMARY.—Dental House Surgeon. Salary £100 per annum, with apartments, board, and laundry. Also Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, laundry, and apartments.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and washing.

CANCER HOSPITAL, Fulham-road, London, S.W.—House Surgeon for six months. Salary £70 per annum.

CARDIFF, UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Assistant Lecturer and Demonstrator in Physiology, and Lecturer in Physiological Chemistry. Salary to first post is £140, and latter post £60 per annum.

CHEADLE CONVALESCENT HOSPITAL.—Assistant Medical Officer for six months. Salary at rate of £80 per annum, with board and residence.

CROYDON MENTAL HOSPITAL, Upper Warlingham, Surrey.—Pathologist and Third Assistant Medical Officer. Salary £200 per annum, with quarters, board, and laundry.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—Two House Surgeons and House Physician for one year. Salary in each case £100 per annum, with apartments, board, &c. Also Assistant House Surgeon for six months. Salary at rate of £60 per annum, with apartments, board, &c.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £72 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, London, S.E.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, and washing. Also Ten qualified Clinical Assistants.

GENERAL LYING-IN HOSPITAL, York-road, Lambeth, S.E.—House Physician for three months. Salary £50 per annum, with board and residence.

GLOUCESTER, GLOUCESTERSHIRE EDUCATION COMMITTEE.—Temporary School Medical Inspector. Salary at rate of £250 per annum.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

GRIMSBY AND DISTRICT HOSPITAL.—Senior House Surgeon and Assistant House Surgeon. Salaries respectively £100 and £60 per annum, with board, lodging, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—Assistant House Surgeon. Salary £75 per annum, with board, residence, and laundry.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Resident House Surgeon. Salary £75 per annum, with board, residence, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £30, with board and residence. Also Casualty Medical Officer. Salary £200 per annum, with luncheon.

HULL ROYAL INFIRMARY.—Assistant House Surgeon. Salary at rate of £60 per annum, with board and lodging.

LEEDS GENERAL INFIRMARY.—Honorary Surgeon to the Ear, Throat, and Nose Department; and Honorary Assistant Physician. Also Assistant Clinical Pathologist. Salary £150 per annum.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

MANCHESTER, ANCOATS HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board, residence, &c.

MANCHESTER SCHOOL FOR MOTHERS.—Medical Officer. Salary £250 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Soho-square, W.—Honorary Assistant Physician.

NOTTINGHAM GENERAL HOSPITAL.—Senior House Physician. Salary £100 per annum, with board, lodging, and washing.

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, residence, and washing.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL.—Resident House Surgeon, unmarried, for six months. Salary £100 per annum, with board, residence, and washing.

SUNDERLAND, CHILDREN'S HOSPITAL.—Resident Medical Officer for six months. Salary £80 per annum, with board, residence, and laundry.

SUNDERLAND ROYAL INFIRMARY.—House Physician for six months. Salary £80 per annum, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum, with board, washing, and attendance.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE, Hammersmith-road, W.—Clinical Assistants. Also Three Non-Resident Assistant House Surgeons.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Anæsthetist.

WOKING, BROOKWOOD ASYLUM, Knaphill.—Third Assistant Medical Officer. Salary £150 per annum, with apartments, board, laundry and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board, rooms, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

KNIGHT.—On Nov. 13th, at Airfield House, Pinetown, Natal, South Africa, the wife of Wilfred Knight, M.B., J.P., of a son.

SCOTT.—On Dec. 12th, at Liss, Hants, the wife of William Lochhead Scott, M.D., B.S., of a son.

DEATHS.

GUBBINS.—On Dec. 7th, in his 57th year, at Newcastle, Natal, from enteric fever, the Hon. Sir Charles O'Grady Gubbins, M.B., a member of the Union Cabinet.

POWER.—On Dec. 14th, at Mogden Cottage, Isleworth, Herbert Robert Power, M.R.C.S., L.R.C.P., Surgeon R.N.V.R.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HEALTH STATISTICS OF SWAZILAND.

THE annual report of the Resident Commissioner, just issued from the Colonial Office, states that the population, as shown by the Census taken in May, 1911, consisted of 1033 whites and 98,876 coloured. From 7000 to 10,000 Swazis are, however, always absent at work in the Transvaal Province. In the year ending March 31st, 1911, there were amongst the Europeans 32 births (29·54 per 1000; and 18 deaths (16·62 per 1000); the births and deaths of natives are not registered. The public health was good. Malaria is always present in the low-lying parts of the country during the rainy season; it is, however, of a mild type. In ordinary seasons fatal cases are very rare. The Government has distributed pamphlets and posters dealing with the causes and prevention of malaria. Diphtheria and whooping-cough appeared amongst European children in the Hlatikulu district, resulting fatally in a few cases. Syphilis is very common amongst the natives, and three cases of leprosy were reported. No small-pox outbreaks occurred and no vaccination was done. The Administration issues to native applicants free medicines, but on the whole they prefer treatment by the native doctors. The climate generally is mild and healthy, except in what is known as the low veld, which is malarial during the rainy season. The average rainfall for the year was 48·08 inches, as compared with 41·20, the mean for the previous five years. The hospital at Mbabane is the only Government institution in the territory. It contains one European ward and two native wards. Sixty-five patients were admitted during the year.

MEDICAL MISSION EXHIBITION.

UNDER the auspices of the Society for the Propagation of the Gospel in Foreign Parts a very interesting and successful exhibition has been held in Manchester during the past few days. The exhibition was admirably arranged to show medical wards, dispensaries, and operating-theatres that are at present in use in India, China, Burma, South Africa, and elsewhere, while there were exhibitions also of various missions in foreign parts. One of the special features of the exhibition was a valuable exhibit kindly lent by the Liverpool School of Tropical Medicine. Professor Sir Ronald Ross, of Liverpool, in opening the exhibition, delivered an interesting address on the origin of medicine in Ancient Egypt, where the medical profession and the Church were not only associated, but were one; indeed, there is evidence to show that the priests carried on researches into diseases and obtained knowledge which we had, he said, only recently re-discovered. Probably one of their most wonderful discoveries was that the effect of the venom of a serpent could be neutralised by the bite of a venomous serpent. They also knew the relation of the rat to the plague. In his opinion the ideal missionary must be both a priest and a medical man, and the Liverpool School of Tropical Medicine was intimately associated with medical missions, and many of their students had become medical missionaries. Medical missions led the way, civilisation came afterwards.

A FOOT-STRAP FOR BLISTERED FEET.

THE Army Council has issued a circular memorandum regarding a foot-strap for use by soldiers suffering from sore or blistered feet when marching. The device consists of a strap which can be fixed in a figure of 8 round the boot and is broadened at certain points of contact. When a man develops a blister or rubbed foot he puts on the strap, which, on being tightened, fixes the boot, prevents further rubbing, and changes the points of contact where there is pressure. It is claimed that the soldier can then continue to march without pain and that the constriction of the superficial blood-vessels tends to aid the healing of the blister. It is not proposed to supply these straps officially, but the Army Council has no objection to officers and other ranks making use of them should they desire to do so.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced for 1911:—

Dec. 19th–23rd (Moscow).—Third Pan-Russian Therapeutical Congress.
,, 27th–30th (Baltimore).—American Physiological Society.

In 1912:—
Jan. 20th–27th (Hong-Kong).—Second Biennial Congress of the Far Eastern Association of Tropical Medicine.
Feb. 13th–14th (London).—Central Poor-Law Conference.
March 7th–11th (Berlin).—Thirty-third Balneological Congress.
March 23rd–April 4th (London, Royal Agricultural Hall).—International Smoke Abatement Exhibition.
,, (London).—First Congress of Pure Food and Health Society of Great Britain.
April 1st–7th (Tunis).—Twenty-second Congress of French-speaking Alienists and Neurologists.
,, 14th–20th (Rome).—Seventh International Congress on Tuberculosis.
,, 15th–18th (Wiesbaden).—Twenty-ninth German Congress for Internal Medicine.
,, (Rome).—Seventh International Congress of Dermatology and Syphilology.
,, (Giessen).—Congress on Study of Families, Inheritance, and Race Hygiene.
Spring (London).—Second Optical Convention.
May 7th–17th (Washington).—Ninth International Red Cross Conference.
,, 27th–June 1st (London).—Eighteenth International Congress of Americanists.
,, (London).—International Horticultural Exhibition.
June 24th–27th (London).—The (Biennial) Health Conference and Exhibition.
,, (London).—Missionary Exhibition.
,, (Dublin).—Celebration of the Bicentenary of the School of Physic in Ireland (Medical School of Trinity College, Dublin).
July 2nd–5th (London).—Congress of the Universities of the Empire.
,, 2nd–6th (Doncaster).—Seventy-third Annual Show of the Royal Agricultural Society of England.
,, 12th–16th (London).—Imperial Conference of Teachers' Associations.
,, 19th–27th (Liverpool).—British Medical Association, Eightieth Annual Meeting.
,, 24th–30th (University of London).—First International Eugenic Congress.
,, 25th–28th (Berlin).—Royal Institute of Public Health.
,, 29th–August 3rd (York).—Congress and Exhibition of the Royal Sanitary Institute.
Aug. 5th–10th (Oxford).—Second International Congress of Entomology.
,, 7th–10th (Glasgow University).—Thirty-second Annual Meeting of the British Dental Association.
Sept. 4th (Washington, D.C.) and Sept. 6th–13th (New York).—Eighth International Congress of Applied Chemistry.
,, 10th–12th (Berlin).—Sixth International Congress of Obstetrics and Gynæcology.
,, 23rd–28th (Washington, D.C.).—Fifteenth International Congress on Hygiene and Demography.
September (Prague).—International Congress of Radiology and Medical Electrology.
(Budapest).—Tuberculosis Exhibition.
(Stockholm).—Olympic Games.
(Düsseldorf).—Third International Medical Accident Congress.
(Perth, Western Australia).—(Three days.) Health Congress.

In 1913:—
(Easter week) (Berlin).—Fourth International Congress for Physiotherapy.
Aug. 6th–12th.—(London).—Seventeenth International Congress of Medicine.
,, 22nd–28th (Cambridge).—International Mathematical Congress.
(London).—Historical Medical Exhibition. (Organised by Mr. Henry S. Wellcome.)
(Chicago).—Congress of the International Association of Refrigeration.
(Paris).—Congress of Physical Education.
(Milan).—Fourteenth International Anti-alcoholic Congress.

In 1914:—
(Vienna).—Third International Congress for Professional Diseases.
(Auckland, N.Z.).—Australasian Medical Congress.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 19th, 1911.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Dec. 13	29·52	S.	...	67	50	41	44	46	Cloudy
,, 14	29·61	W.	0·27	68	51	43	44	44	Cloudy
,, 15	29·35	S.W.	0·42	60	52	44	48	49	Cloudy
,, 16	29·89	S.W.	...	64	50	42	42	43	Fine
,, 17	29·94	S.W.	0·02	58	54	48	49	50	Cloudy
,, 18	29·83	S.	0·12	56	52	43	50	51	Overcast
,, 19	29·73	S.W.	0·15	56	52	50	52	52	Raining

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.). Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (30th).—Royal Free (9A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

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